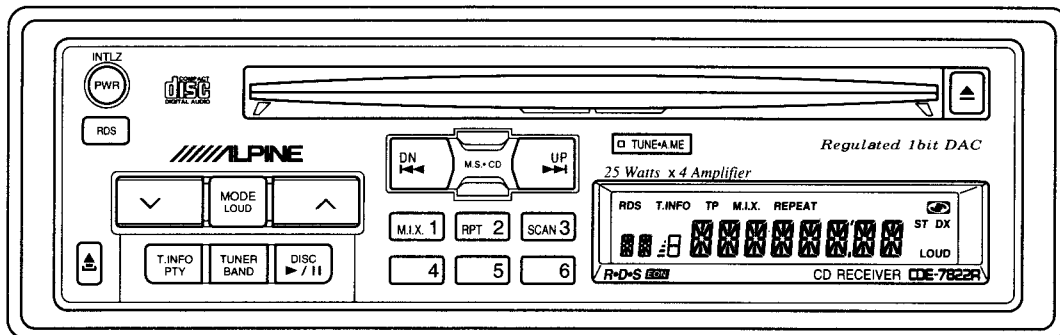


//////ALPINE[®] SERVICE MANUAL

FM/MW/LW/RDS Compact Disc Receiver



- For the CD player mechanism parts (DP24H02A) of this model, refer to the Service Manual • DP-H Series (68E21967S01).



CDE-7822R/ CDE-7820R

Contents

Specifications	3 to 4
In Case of Difficulty	4 to 5
Connections	5 to 6
Basic Operation	7
Radio Operation	8 to 9
CD Operation	9 to 10
RDS (Radio Data System)	10 to 12
Disassembly Instructions	13
Adjustment Procedures	14 to 17
Adjustment Locations	18
Description of IC Terminal	19 to 21
LCD Display	22 to 23
Block Diagram	24
Tuner Schematic Diagram	25
Packing Assembly Parts List	26
Packing Method View	26
Parts Layout on P.C. Boards and Wiring Diagram (1/2)	27 to 29
Parts Layout on P.C. Boards and Wiring Diagram (2/2)	30 to 32
Schematic Diagram (1/4)	33 to 35
Schematic Diagram (2/4)	36 to 38
Schematic Diagram (3/4)	39 to 41
Schematic Diagram (4/4)	42 to 44
Electrical Parts List	45 to 53
Cabinet Assembly Parts List	54
Exploded View (Cabinet)	55 to 56
Semi-Conductor Lead Identifications	57 to 58

Spare Schematic Diagram Inserted.

Specifications

CD SECTION

System	Optical (Compact Disc system)
Quantizing Bit Number	16bit Linear system
Channels	2Channels
Channel Balance (at 1kHz)	$0 \pm 3\text{dB}$
Distortion (at 1kHz)	0.1%
Frequency Response (Ref. 1kHz)	17Hz : $0 \pm 3\text{dB}$ 127Hz : $0 \pm 2\text{dB}$ 10.007kHz : $0 \pm 2\text{dB}$ 19.997kHz : $0 \pm 4\text{dB}$
S/N Ratio	85dB
Separation (at 1kHz)	55dB
De-Emphasis (Ref. 1kHz)	4kHz : $-20 \pm 3\text{dB}$ 16kHz : $-20 \pm 3\text{dB}$

FM RADIO

Intermediate Frequency	$10.7 \pm 0.1\text{MHz}$
Frequency Range	87.5~108MHz
Usable Sensitivity (Mono, 30dB S/N, at 98.1MHz)	17.2dB μ
-3dB Limiting Sensitivity (at 98.1MHz)	19.2dB μ
S/N Ratio (Stereo, at 98.1MHz)	56dB
Image Rejection (at 106.1MHz)	40dB
IF Rejection (at 90.1MHz)	60dB
Distortion (Input 60dB μ , at 98.1MHz)	1%
Frequency Response (Ref. 400Hz, at 98.1MHz)	100Hz : $0 \pm 3\text{dB}$ 10kHz : $-12 \pm 3\text{dB}$
Stereo Separation (1kHz, at 98.1MHz)	20dB
PS Sensitivity (at 98.1MHz)	36.2dB μ
TP Sensitivity (at 98.1MHz)	36.2dB μ

MW RADIO

Intermediate Frequency	450kHz
Frequency Range	531~1,602kHz
Usable Sensitivity (20dB S/N, at 999kHz)	35dB
S/N Ratio (at 999kHz)	44dB
Image Rejection (at 1,404kHz)	50dB
IF Rejection (at 603kHz)	60dB
Distortion (at 999kHz)	1.5%
Frequency Response (Ref. 400Hz, at 999kHz)	100Hz : $-3 \pm 4\text{dB}$ 4kHz : $-12 \pm 6, -12\text{dB}$

LW RADIO

Intermediate Frequency	450kHz
Frequency Range	153~281kHz
Usable Sensitivity (20dB S/N, at 216kHz)	41dB
S/N Ratio (at 216kHz)	42dB
Image Rejection (at 270kHz)	40dB
IF Rejection (at 162kHz)	50dB
Distortion (at 216kHz)	1.5%
Frequency Response (Ref. 400Hz, at 216kHz)	100Hz : -3 ±4dB 4kHz : -12+6, -12dB

GENERAL

Power Supply	DC14.4V
Power Output/Impedance (T.H.D.10%)	11W/4ohm
Pre Output/Impedance	1.2V/10kohm
Semiconductors	23IC's, 62Transistors, 31Diodes, 8Zener Diodes (○) 22IC's, 53Transistors, 30Diodes, 8Zener Diodes (●)
Dimensions (W×H×D).....	Chassis : 178×50×152mm Nose : 169×45×18mm
Weight.....	1.5kg

Notes : Due to Continuing product improvement, specifications and designs are subject to change without notice.

○ : For CDE-7822R Model only, ● : For CDE-7820R Model only , Others : Common.

In Case of Difficulty

If you encounter a problem, please review the items in the following checklist. This guide will help you isolate the problem if the unit is at fault. Otherwise, make sure the rest of your system is properly connected or consult your authorized Alpine dealer.

Initial Turn-on After Installation

Symptom/Symptôme/Sintoma	Cause and Solution
No function or display./Fonctions inopérantes ou pas d'affichage./La unidad no funciona ni hay visualización.	- Car's ignition is off. - If connected following instructions, the unit will not operate with the car's ignition off. - Improper power lead connections. - Check power lead connections. - Blown fuse. - Check the fuse on the rear panel of the unit; replace with the proper value if necessary.

In Case of Difficulty

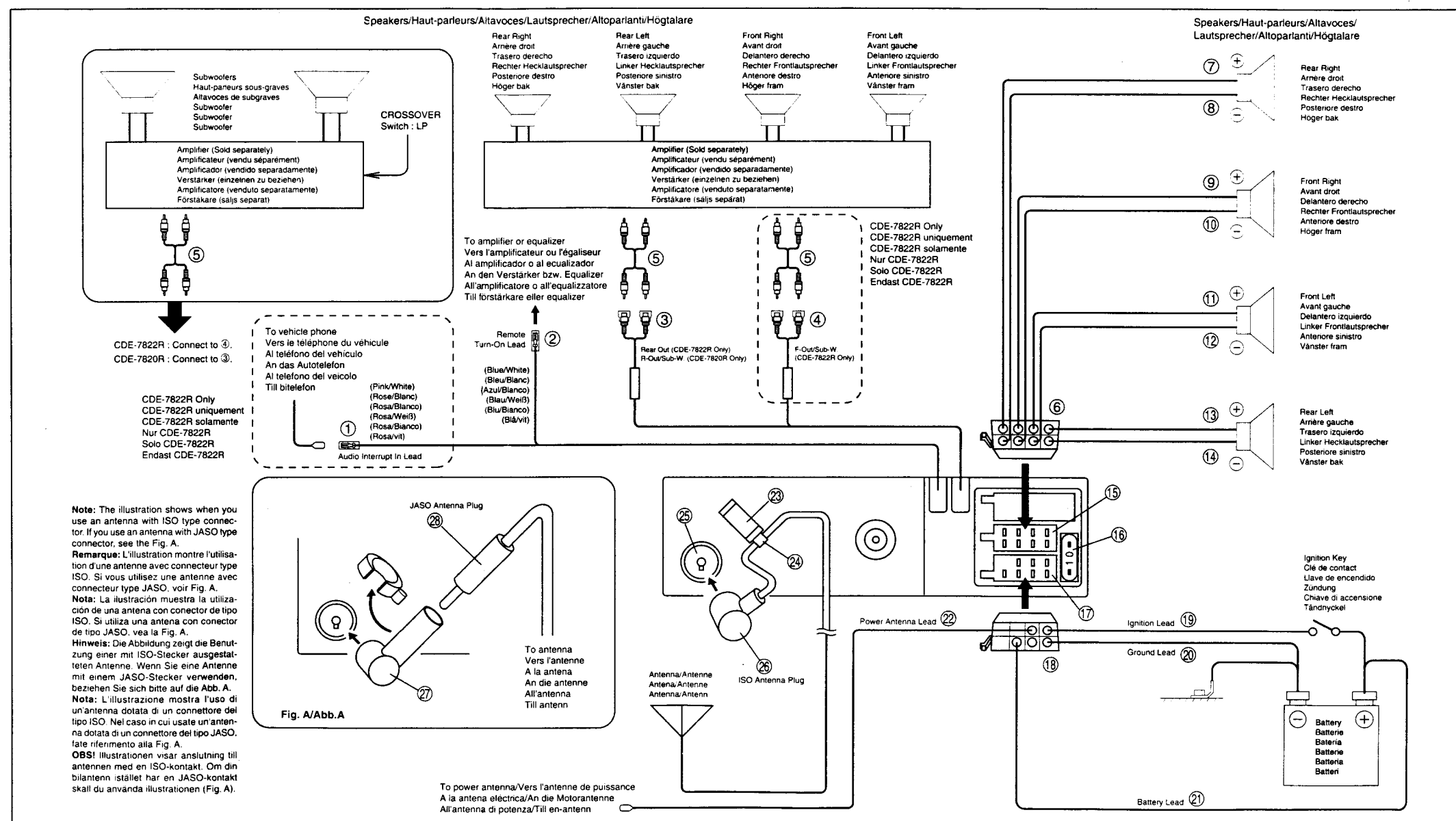
Radio Mode

Symptom/Symptôme/Sintoma	Cause and Solution
Unable to receive stations./Impossible de recevoir les stations./Es imposible recibir emisoras.	- No antenna or open connection in cable. - Make sure the antenna is properly connected; replace the antenna or cable if necessary.
Unable to tune stations in the seek mode./Impossible d'accorder les stations en mode de recherche automatique./Es imposible sintonizar emisoras en el modo de búsqueda.	- You are in a weak signal area. - Make sure the tuner is in the DX mode. - If the area you are in is a primary signal area, the antenna may not be grounded and connected properly. - Check your antenna connections; make sure the antenna is properly grounded at its mounting location. - The antenna may not be the proper length. - Make sure the antenna is fully extended; if broken, replace the antenna with a new one.
Broadcast is noisy./Réception parasitée./La recepción es ruidosa.	- The antenna is not the proper length. - Extend the antenna fully; replace it if it is broken. - The antenna is poorly grounded. - Make sure the antenna is grounded properly at its mounting location.

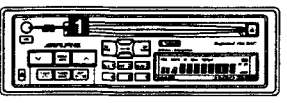
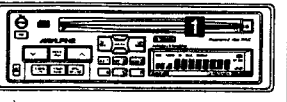
In Case of Difficulty

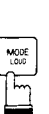
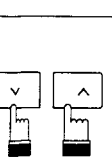
CD Mode	
Symptom/Symptom/Symptôme	Cause and Solution
CD not functioning./Le changeur CD ne fonctionne pas./El cambiador de discos compactos no funciona.	- Out of operating temperature range +50°C (+120°F) for CD. - Allow the car's interior (or trunk) temperature to cool.
CD playback sound is wavering./Le son de lecture de CD est déformé./El sonido de reproducción de un disco compacto oscila.	- Moisture condensation in the CD Module. - Allow enough time for the condensation to evaporate (about 1 hour).
CD insertion not possible./Impossible d'insérer un CD./No es posible insertar un disco compacto.	- A CD is already in the CD player. - Eject the CD and remove it. - The CD is being improperly inserted. - Make sure the CD is being inserted following instructions in the Owner's Manual.
Unable to fast forward or backward./Avance rapide ou inversion impossibles./Es imposible avanzar y retroceder rápidamente.	- The CD has been damaged. - Eject the CD and discard it; using a damaged CD in your unit can cause damage to the mechanism.
Sound skips due to vibration./Pertes de son dues à des vibrations./El sonido salta debido a las vibraciones.	- Improper mounting. - Securely re-mount the unit. - Clean the disc. - Disc has scratches. - Change the disc.
Sound skips without vibration./Pertes de son non dues à des vibrations./El sonido salta sin haber vibraciones.	- Dirty or scratched disc. - Clean the disc; damaged discs should be replaced.

Connections/Anschlüsse/Connexions/Collegamenti/Conexiones/Anslutningar

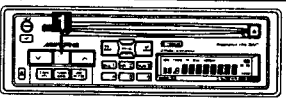
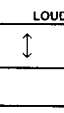
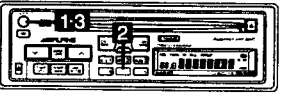
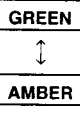


Basic Operation

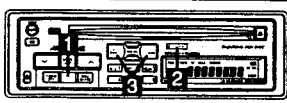
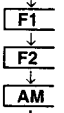
	Turning Power On and Off
1 	Press to turn on the unit. Note: The unit can be turned on by pressing any button except the eject button or by inserting a CD.
	Press again to turn off the unit.
	Non Fader Pre-Out (N.F.P.) On and Off
1 	Press the Eject button for at least 3 seconds. With each press, N.F.P. is toggled On or Off. N.F.P. ON: In this position, the Front Pre-Out will not be affected by the fader. This is ideal for driving a subwoofer amplifier. N.F.P. OFF: Returns to normal fader mode. Notes: • Initial mode is "NFP OFF". • Set the N.F.P. to OFF unless the subwoofer is used.

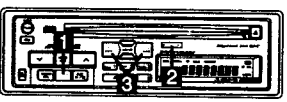
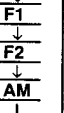
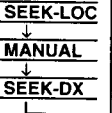
	Adjusting Volume/Treble/Bass/Balance/Fader
1 	Press repeatedly to choose the desired mode. Note: If the  or  button is not pressed in 5 seconds after selecting the TREB, BASS, BAL and FAD modes, the unit automatically returns to the VOL mode.
2 	Press these buttons until the desired sound is obtained in each mode. Notes: • These buttons have a "Dual Speed" function (CDE-7822R only). Pressing lightly will change the level slowly. Pressing the buttons harder will change the level quickly. • The BASS and TREBLE settings for each source (FM, AM and CD) will be automatically memorized whenever the settings are changed. • In case that the Equalizer is connected, the Bass and Treble are adjusted on the Equalizer.

Basic Operation

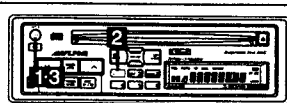
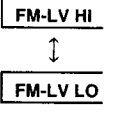
	Turning Loudness On/Off
1 	Press for at least 2 seconds to activate or deactivate the loudness mode.
	
	Changing Lighting Colour (CDE-7822R only)
1 	Press the PWR button for at least 2 seconds.
2 	Press the Preset 5 button to change the lighting colour between green and amber.
	
3 	Press the PWR button to set the lighting colour.

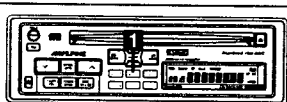
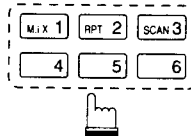
Radio Operation

	Manual Tuning
1 	Press repeatedly until the desired radio band is displayed.
	
2 	Press repeatedly until "MANUAL" is displayed. Note: Initial mode is SEEK-DX.
	
3 	Press the DN or UP button to move downward or upward one step respectively until the desired station frequency is displayed.
	

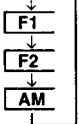
	Automatic Seek Tuning
1 	Press repeatedly until the desired radio band is displayed.
	
2 	Press the button to illuminate the DX indicator in the display. With the DX mode activated, both strong and weak stations will be tuned in the Auto-Seek operation. Press the button again to return to the local mode. The DX indicator will turn off and only strong radio stations will be tuned.
	
3 	Press the DN button or UP button to automatically seek a station downward or upward respectively.
	

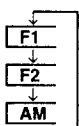
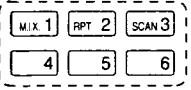
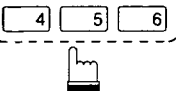
Radio Operation

	Adjusting FM Signal Level
1 	Press the PWR button for at least 2 seconds.
2 	Press to select the desired signal HI (High) or LO (Low) level.
	
3 	Press to preset the FM signal level in memory and deactivate the adjusting mode.

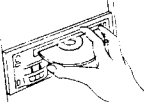
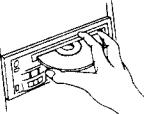
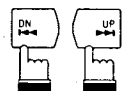
	Manual Storing of Station Presets
1 	1. Tune in the desired radio station you wish to store in the preset memory. 2. Press any one of the preset buttons (1 through 6) for at least 2 seconds until the frequency display blinks. 3. Press the preset button into which you wish to store the station while the display is blinking (within 5 seconds). The display changes from blinking to steady lighting indicating that the station has been memorized. The preset number is also displayed. 4. Repeat the procedure to store 5 other stations onto the same band. Use this procedure for other bands. A total of 18 stations can be stored in the preset memory (6 stations for each band: FM1, FM2, AM). The RDS stations can be preset in the FM1 and FM2 bands only. Note: If a preset memory has already been set in the same preset location, it will be cleared and the new station will be memorized.

Radio Operation

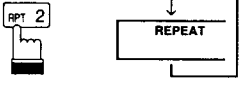
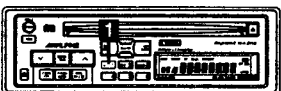
	Automatic Memory of Station Presets
1 	Press until the desired radio band is displayed. 
2 	A-MEMORY Press for at least 2 seconds. The display shows "A-MEMORY" for a second then changes the radio frequency during the auto memory operation. The tuner will automatically seek and store 6 strong stations in the selected band in order of signal strength. When the automatic storing has been completed, the tuner goes to the station stored in the preset location No. 1.
	Note: If no stations are stored, the tuner will return to the original station you were listening to before the auto storing procedure began.

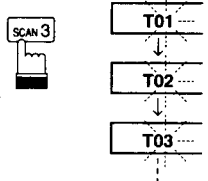
	Tuning to Preset Stations
1 	Press repeatedly until the desired band is displayed. 
2  	AM ± 2 999 Press the station preset button that has your desired radio station in memory. The display shows the preset number, band and frequency of the station.

CD Operation

	Inserting/Ejecting Disc
1  	Insert a disc half way into the slot with the label side facing up. The player automatically draws the disc into the disc compartment. The Disc indicator appears to show that a disc is loaded. Note: You can insert a 3-inch CD without using an adaptor ring.
2 	Press when you want to eject the CD.
	Normal Play and Pause
1 	Insert a CD. The CD player begins playback from the first track on the disc. The display shows the track number and elapsed time of the track being played. When the last track is played back the player returns to the first track and begins playback from that point.
2 	Press to start CD play. T01 0'45
3 	Press to temporarily stop CD playback. To resume playback, press again. T02 PAU
	Music Sensor (Skip)
1 	Momentarily press the DN button once to return to the beginning of the current track. If you wish to access a track further back, repeatedly press until you reach the desired track. (The example shows the Music Sensor operation starting from track No. 4.) T04 2'35 T04 0'00 T03 0'00
	Press the UP button once to advance to the beginning of the next track. If you wish to access a track further ahead, press repeatedly until the desired track is reached. T04 2'35 T05 0'00
Note: The music sensor feature is functional in the play or pause mode.	
	Fast Forward and Backward
1 	Press and hold the DN or UP button to quickly move backward or forward until you reach the desired section of the track.

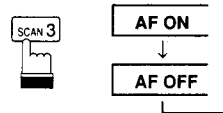
CD Operation

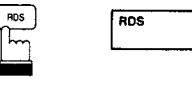
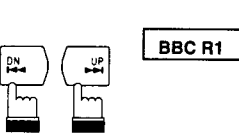
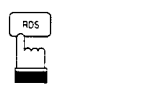
 1 	Repeat Play Press to play back repeatedly the track being played. The REPEAT indicator appears and the track will be played repeatedly. Press again to deactivate the repeat play.
 1 	M.I.X. (Random Play) Press the button in the play or pause mode. The M.I.X. indicator will illuminate and the tracks on the disc will be played back in a random sequence. After all the tracks on the disc have been played back once, the player will begin a new random sequence play until the M.I.X. mode is canceled. To cancel M.I.X. play, press the button again.

 1 	Scanning Programmes Press to activate the Scan mode. The first 10 seconds of each track will be played back in succession. To stop the Scan, press to deactivate the Scan mode.
---	---

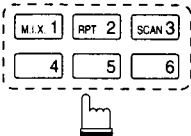
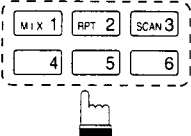
RDS (Radio Data System)

The RDS (Radio Data System) is a radio information system using the 57 kHz subcarrier of regular FM broadcast. The RDS allows you to receive a variety of information such as traffic information, station names, and to automatically re-tune to a stronger transmitter that is broadcasting the same programme.

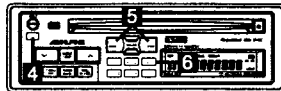
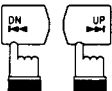
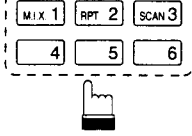
 1  2  3 	Setting RDS Reception Mode and Receiving Press for at least 2 seconds. Press repeatedly to select the desired AF (Alternative Frequencies) OFF or AF ON mode. Note: Use the AF OFF mode when automatic re-tuning is not required. Press to activate the selected mode.
---	---

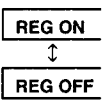
 4  5  6 	Setting RDS Reception Mode and Receiving (Continued) Press to activate the RDS mode. Press the DN or UP button to tune in the desired RDS station. When the station signal being received has become weak; A. In the AF ON mode the unit automatically re-tunes to a stronger station that carries the same programme. B. In the AF OFF/AF ON mode Press for more than 2 seconds to have the unit automatically search for a stronger station in the AF (Alternative Frequencies) list. If there is no AF station, the display shows "SEEK END." Press again to deactivate the RDS mode. Note: You can tune in an RDS station while you are listening to CD play. Choose your desired station in 5 seconds after the step 4 above.
---	--

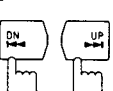
RDS (Radio Data System)

	Recalling Preset RDS Stations
1  RDS	Press to activate the RDS mode.
2  BBC R1	Press the preset location button in which your desired RDS station is preset. If the preset station's signal is weak, the unit automatically searches and tunes to a stronger station in the AF (Alternative Frequencies) list.
3  	If the preset station and the stations in the AF list cannot be received: Press the same preset location button again to search again for a station in the PI (Programme Identification) list. If there are still no stations receivable in the area, the unit displays the frequency of the preset station and the preset indicator disappears. If the signal level of the Regional (Local) station being tuned becomes too weak to receive, press the same preset location button to tune in a Regional station in other district.
	Note: For presetting the RDS stations, refer to the Radio Operation section. The RDS stations can be preset in the F1 and F2 bands only.

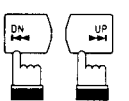
RDS (Radio Data System)

	Receiving RDS Regional (Local) Stations (Continued)
4  RDS	Press to activate the RDS mode.
5 	Press to tune in the desired local (regional) RDS station.
6 	Press repeatedly the preset location button corresponding to your desired station during reception of a Regional station to search for a receivable Regional station. Each pressing tunes in another receivable Regional station.

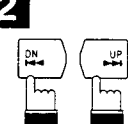
	Receiving RDS Regional (Local) Stations
1 	Press for at least 2 seconds.
2  	Press to turn on or off the REG mode. In the REG ON mode, the unit automatically keeps receiving the related local RDS station.
3 	Press to activate the selected mode.

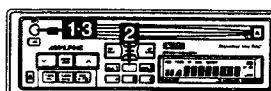
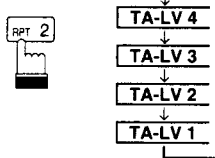
	Receiving Traffic Information
1  T.INFO	Press to display the T.INFO indicator.
2  	Press the DN or UP button to select your desired traffic information station. When a traffic information station is tuned in, the TP indicator lights up. Traffic information is heard only when it is being broadcast. If traffic information is not being broadcast, the unit is set in the standby mode. When a traffic information broadcast begins, the unit automatically receives it, the display shows "TRF-INFO". When traffic information broadcast is over, the unit will automatically set in the standby mode.
	Notes: - If the traffic information broadcast signal falls below a certain level, the unit remains in the receiving mode for 1 minute. If the signal remains below a certain level for over 1 minute, the unit is set in the standby mode for the traffic information broadcast. - If you do not want to listen to the traffic information being received, lightly press the T.INFO button to skip that traffic information message. The T.INFO mode will remain in the ON position to receive the next traffic information message.

RDS (Radio Data System)

	Receiving Traffic Information While Playing CD or Radio
1 	Press until the T.INFO indicator appears.
2 	Press to select a traffic information station if necessary. - When a traffic information broadcast starts, the unit automatically mutes the CD or the regular FM broadcast. - When the traffic information broadcast finishes, the unit automatically returns to the original source play before the traffic information broadcast began. When traffic information stations cannot be received: In the tuner mode: When the TP signal can no longer be received, an alarm will be sounded after 1 minute. In the CD mode: When the TP signal can no longer be received, the traffic information station of another frequency will be selected automatically. Note: The receiver is equipped with the EON (Enhanced Other Networks) function in order to keep track of additional alternative frequencies to the AF list. If the station being received does not broadcast the traffic information, the receiver automatically tunes in the related station that broadcasts the traffic information when it occurs.

RDS (Radio Data System)

	PTY Tuning
1 	Press for at least 2 seconds to activate the PTY mode. The PTY (Programme Type) of the station being currently received will be displayed for 5 seconds. - If there is no receivable PTY broadcast, "NONE" will be displayed for 5 seconds. - If no RDS station can be received, the display shows "NO RDS". Note: If no button is pressed within 5 seconds after pressing the PTY button, the PTY mode will be automatically cancelled.
2 	Press within 5 seconds to choose the desired programme type while the PTY programme type is being displayed.
3 	The tuner starts searching for a station when the PTY button is pressed within 5 seconds after selecting the PTY programme type. The chosen programme type indicator blinks during searching and lights when a station is found.
4 	Press for 2 seconds to cancel the PTY mode.

	Presetting Volume Level for Traffic Information
1 	Press for at least 2 seconds.
2 	Press until the desired volume level is obtained.
3 	Press again to preset the volume level for the traffic information listening.

Disassembly Instructions

1. Removal of Nose Unit

- (1) Refer to the Owner's Manual (Part No. 68P61329W61).

2. Removal of Front Escutcheon

- (1) After remove the top cover and face plate, remove six Hooks (A) as shown in Figure 1.

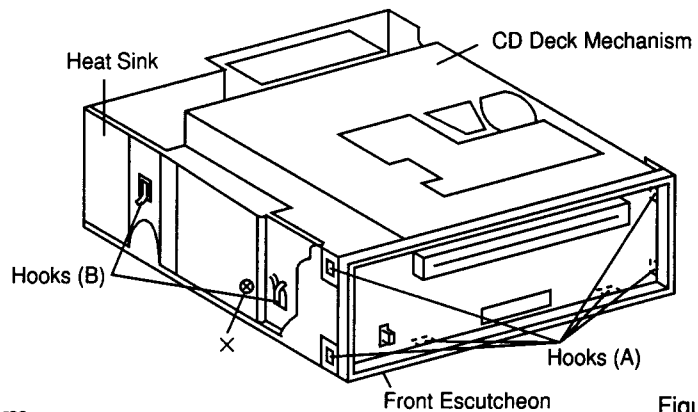


Figure 1

3. Removal of CD Deck Mechanism

- (1) After removal of the Front Escutcheon, remove four screws marked "○" as shown in Figure 2.
- (2) Disconnect one connector from the Main P.C.Board.

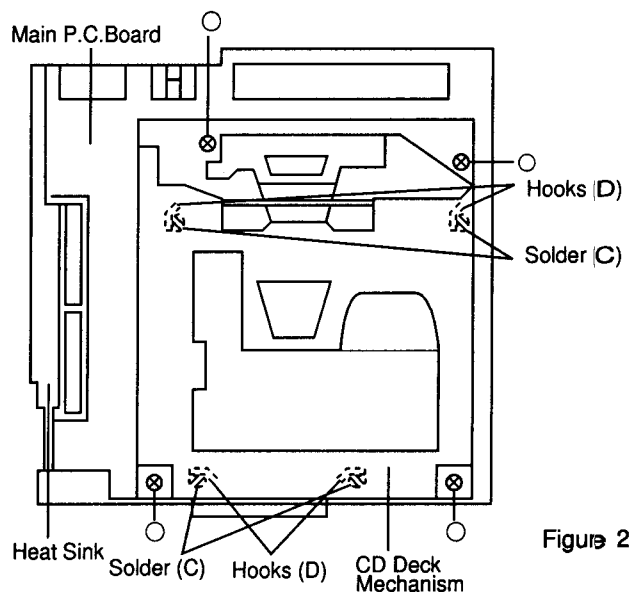


Figure 2

4. Removal of Main P.C.Board

- (1) After removal of CD Deck Mechanism, remove the Heat Sink by removing two Hooks (B) and a screw marked "X" as shown in Figure 1.
- (2) Remove a screw marked "△" as shown in Figure 3.
- (3) Remove the solder (C) and four Hooks (D) as shown in Figure 2.

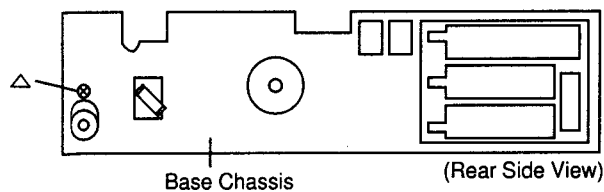


Figure 3

5. Removal of Front P.C.Board

- (1) After removal of Nose Unit, remove four screws marked "□" and one Hook (E) as shown in Figure 4.

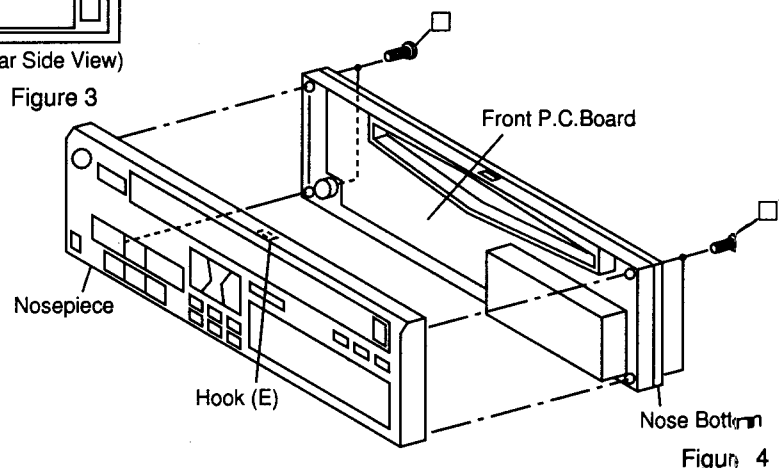


Figure 4

Adjustment Procedures

1. FM SECTION

(1) Dummy Antenna Circuit

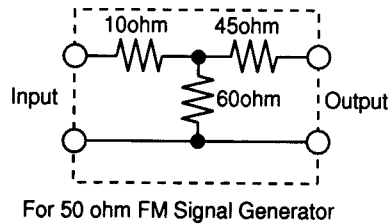
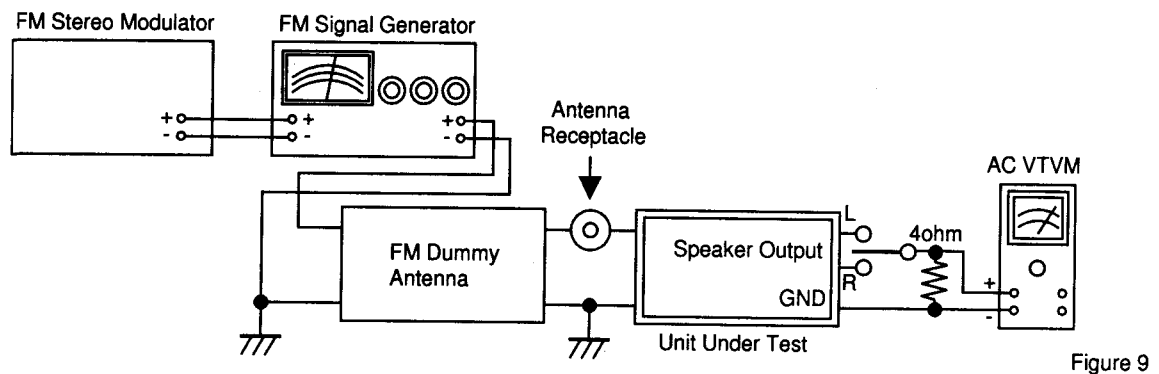
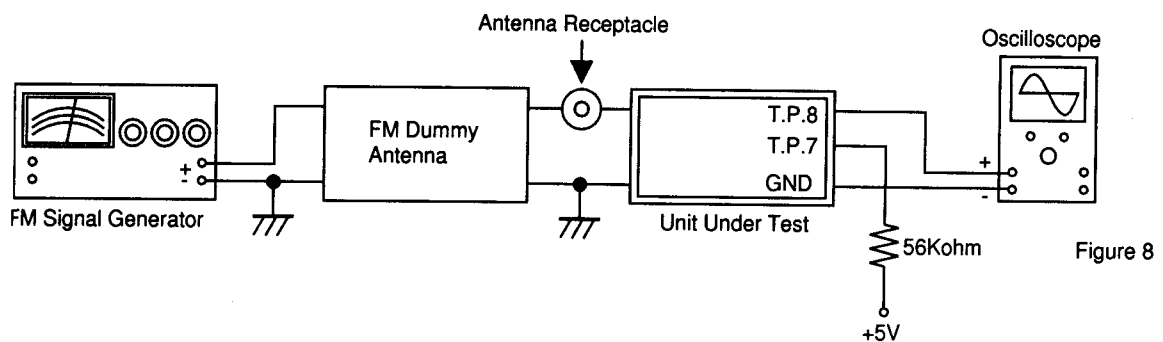
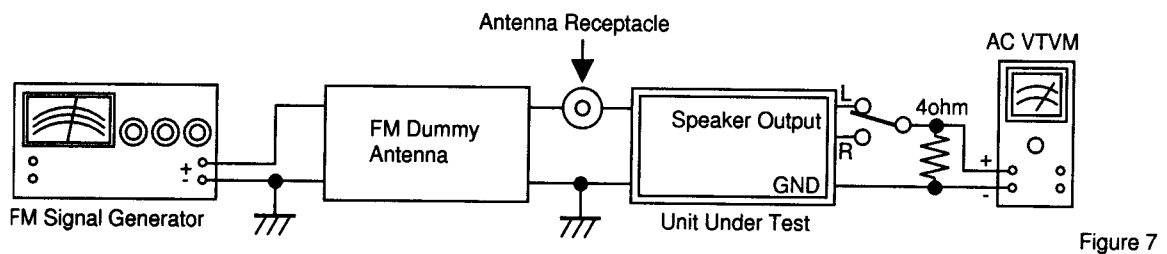
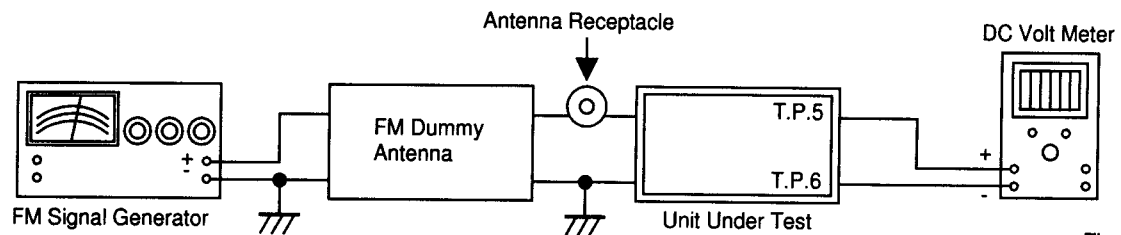


Figure 5

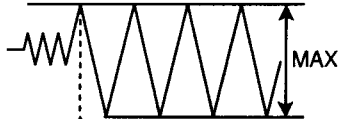
(2) Connections



(3) Control Settings

Power Switch ON
 Fader Control Center Position
 Balance Control Center Position
 Treble Control Center Position
 Bass Control Center Position
 Band Switch FM
 Others OFF

(4) Adjustment Procedures

Step	Description	Connection	Signal Generator	Dial Control	Test Point	Adjustment
1	IF Adjustment	Figure 6	98.1MHz, 72dB (Mod. OFF)	98.1MHz	T.P.5 T.P.6	Adjust L2101 for to $0 \pm 15\text{mV}$.
2	Noise Level Adjustment	(1) Figure 7	98.1MHz, 72dB (Mod. 400Hz, Dev. 40kHz)	98.1MHz	Speaker Output	Adjust MAIN VOLUME (S410, 417 (○), S411, 418(●)) to obtain 2V output. This value is 0dB.
		(2) Figure 7	98.1MHz, -20dB (Mod. 400Hz, Dev. 40kHz)	98.1MHz	Speaker Output	Adjust VR2105 to $37 \pm 5\text{dB}$ output at SG level minimum.
3	Seek Stop Adjustment	Figure 8	98.1MHz, 30dB (Mod. 400Hz, Dev. 40kHz)	98.1MHz	T.P.7 T.P.8	Adjust VR2104 for the waveform changing to maximum output. Figure : Waveform of T.P.8 output.  Stop the adjust VR2104 at this time.
4	Stereo Separation Adjustment (Lch)	Figure 9	98.1MHz, 72dB (Stereo 1kHz, Lch only)	98.1MHz	Speaker Output	Adjust VR2103 for Rch output to be minimum and confirm Lch and Rch output level difference is more than 25dB.
5	Stereo Blend Adjustment (Lch)	Figure 9	98.1MHz, 40dB (Stereo 1kHz, Lch only)	98.1MHz	Speaker Output	Adjust VR2102 for Lch and Rch output level difference to be $8 \pm 0.5\text{dB}$.
6	Stereo Separation Adjustment (Rch)	Figure 9	98.1MHz, 72dB (Stereo 1kHz, Rch only)	98.1MHz	Speaker Output	Proceed same adjustment under step 4 by alternating Lch and Rch.
7	Stereo Blend Adjustment (Rch)	Figure 9	98.1MHz, 40dB (Stereo 1kHz, Rch only)	98.1MHz	Speaker Output	Proceed same adjustment under step 5.

Notes : ○ : For CDE-7822R Model only, ● : For CDE-7820R Model only, Others : Common.

2 Compact Disc SECTION

(1) Connections

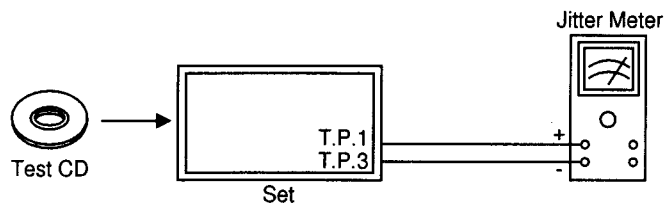


Figure 10

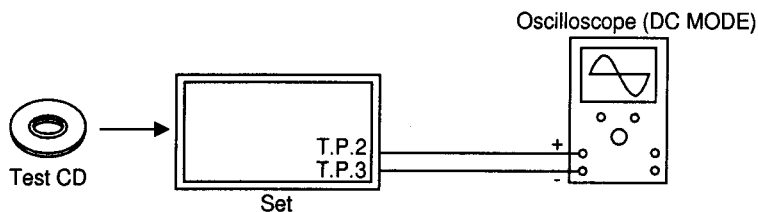


Figure 11

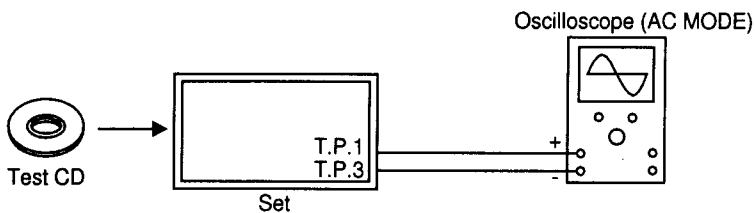


Figure 12

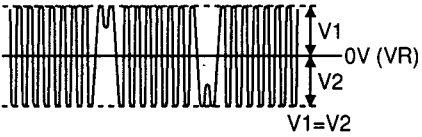
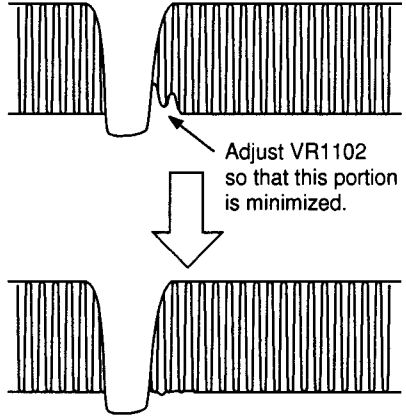
(2) Control Settings

Power Switch ON
Fader Control Center Position
Balance Control Center Position
Treble/Bass Control Center Position
Others OFF

(3) The necessities for adjustment

DP-H Extension Cord
Assy., EX Cord Kit for DP-H Mechanism
Part No. 01E11375S01
See Adjustment Locations (Figure 13)

(4) Adjustment Procedures

Step	Description	Test CD	Connection	Test Point	Adjustment Point	Adjustment
1	Jitter Adjustment	TCD-782 Track No.1 (A-BEX)	Figure 10	T.P.1 T.P.3	VR1103	1 : Set the mode to playback with the test disc loaded. 2 : First, rotate VR1103 fully counterclockwise. 3 : Using the jitter meter, measure the T.P.1 signal. 4 : Next, carefully rotate VR1103 clockwise until the jitter meter shows a minimum value and then increases by +0.5nS from the minimum value.
2	Tracking Balance Adjustment	TCD-782 Track No.1 (A-BEX)	Figure 11	T.P.2 T.P.3	VR1101	1 : Set the mode to playback with the test disc loaded. 2 : Use wire to connect T.P.3 to T.P.4. 3 : Using the oscilloscope, measure the T.P.2 signal in reference to VR. (VR standard=0V) 4 : Adjust VR1101 so that the positive and negative deflection widths of the T.P.2 signal are at the same level, relative to VR (0V). (The entire waveform moves up and down.)  5 : After adjustment, remove the wire connecting to T.P.3 to T.P.4.
3	Tracking Offset Adjustment	TCD-721 Track No.6 (A-BEX)	Figure 12	T.P.1 T.P.3	VR1102	1 : Set the mode to playback with the test disc loaded. 2 : Using the oscilloscope, measure the T.P.1 signal. 3 : Adjust VR1102 in order to minimum the waveform induced by the reaction to the omission of the T.P.1 signal. 4 : Conduct the tracking balance adjustment once again. 

Adjustment Locations

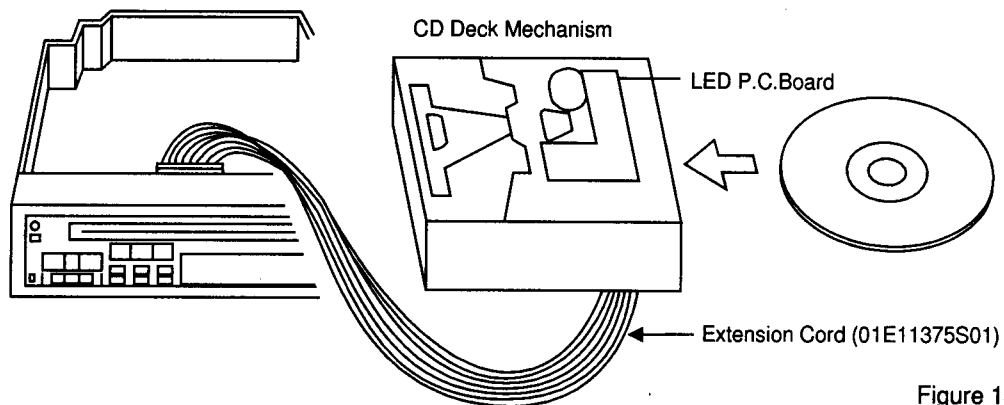
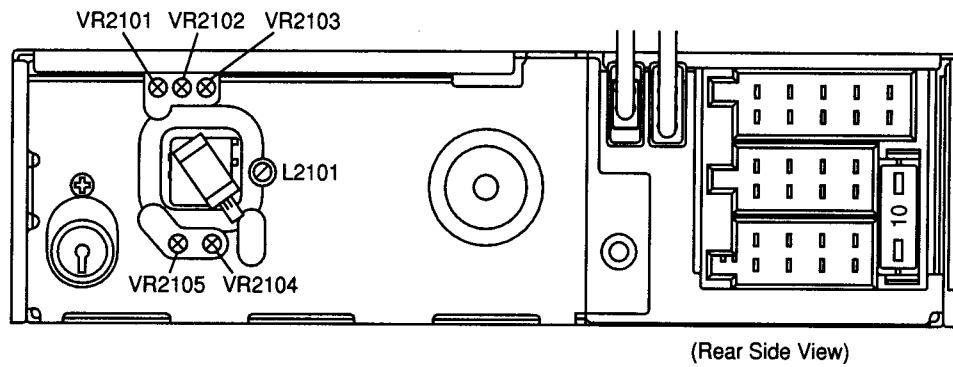


Figure 13

Note : For the Adjustment parts (S410, 417 (○), S411, 418 (●), VR1101, 1102, 1103) and Test Points, refer to the Parts Layout on P.C. Boards and Wiring Diagram.

Description of IC Terminal

75099W03 : IC601

No.	Symbol	I/O	Terminal Description
1	KEY-3	I	Key Data Input Terminal.
2	KEY-2		
3	KEY-1		
4	GND	—	GND Terminal for A/D Converter.
5	INTLZ	I	Initialized Movement Strike Out Terminal.
6	22R/20R	I	Model Set Up Terminal.
7	AVREF	—	Reference Voltage Terminal for A/D Converter.
8	PULL-UP	—	Pull-Up Terminal.
9	NC	—	No Connection.
10	○ AMBER	O	ORG/GRN Switching Control Terminal.
	● NC	—	No Connection.
11	LCD-INH	O	LCD Driver INH Output Terminal.
12	LCD-DATA	O	LCD Driver DATA Output Terminal.
13	LCD-CLK	O	LCD Driver CLK Output Terminal.
14	LCD-CE	O	LCD Driver CE Output Terminal.
15	NC	—	No Connection.
16			
17			
18	PS-OFF	I	Station Indicate OFF Mode Terminal.
19	POW-ON	O	Power On Output Terminal.
20	NC	—	No Connection.
21			
22			
23	L-CONT	O	Disc Detection Power Control Output Terminal.
24	SOL	O	Solenoid Keep Output Terminal.
25	LOAD-FWD	O	Loading Motor + Output Terminal.
26	LOAD-BWD	O	Loading Motor - Output Terminal.
27	PH-E	I	Reload Detection Terminal.
28	PH-D	I	8cm Disc End Detection Terminal.
29	PH-C	I	8cm Disc Detection Terminal.
30	PH-B	I	Eject-End Detection Terminal.
31	PH-A	I	Disc In Detection Terminal.
32	V-CONT	O	CD Power Control Terminal.
33	GND	—	GND Terminal.
34	LIMIT-SW	I	Limit Detection Terminal.
35	CAM-END	I	Disc Clamp Detection Terminal.
36	BUS 0	I/O	Communication Terminal for CD Signal Management IC.
37	BUS 1		

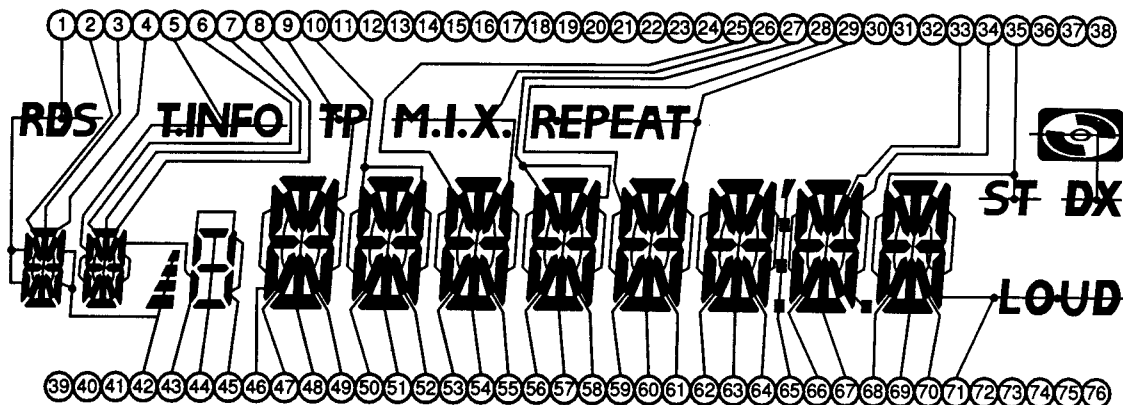
Notes : ○ : For CDE-7822R Model only, ● : For CDE-7820R Model only, Others : Common.

No.	Symbol	I/O	Terminal Description
38	BUS 2	I/O	Communication Terminal for CD Signal Management IC.
39	BUS 3	I/O	
40	BUCK	O	
41	CCE	O	
42	LOCK	I	Lock Status Input Terminal.
43	A-MUTE	O	Audio Mute Output Terminal.
44	RDS-DATA	I	RDS Data Input Terminal.
45	NC	—	No Connection.
46	ALM	O	TP OFF Alarm Output Terminal.
47	IF-MUTE	O	IF Mute Output Terminal.
48	$\overline{\text{LPF-SW}}$	O	L.P.F. Time Constant Switching Terminal.
49	NC	—	No Connection.
50	SD	I	Station Detector Signal Input Terminal.
51	$\overline{\text{ST}}$	I	Stereo Signal Input Terminal.
52	PLL-CE	O	Data Communication Control Signal Output Terminal to PLL.
53	PLL-CLK	O	Communication Data Sync Signal Output Terminal to PLL.
54	PLL-D-I	I	Serial Data Signal Input Terminal from PLL.
55	PLL-D-O	O	Serial Data Signal Output Terminal to PLL.
56	NFP-OUT2	O	N.F.P. Time Fader Output Control Terminal.
57	PWR-IC	O	Power IC Stand-by Control Terminal.
58	OUT-REM	O	Out-Remote Output Terminal.
59	$\overline{\text{IN-INT}}$	I	In-Interrupt Input Terminal.
60	$\overline{\text{RESET}}$	I	System Reset Input Terminal.
61	GND	—	GND Terminal.
62	A-HOLD	I	ACC Detection Input Terminal.
63	B-HOLD	I	Battery Detection Input Terminal.
64	RDS-CLK	I	RDS Clock Input Terminal.
65	VOL-CLK	O	Volume Clock Output Terminal.
66	VOL-DATA	O	Volume Data Output Terminal.
67	NFP-OUT 1	O	N.F.P. Time Fader Output Control Terminal.
68	V _{DD}	—	Power Supply Terminal.
69	X2	O	Connection Terminal for System Clock OSC.
70	X1	I	
71	GND	—	GND Terminal.
72	NC	—	No Connection.
73	GND	—	GND Terminal.
74	V _{DD}	—	Power Supply Terminal.
75			

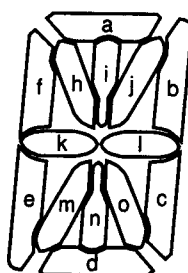
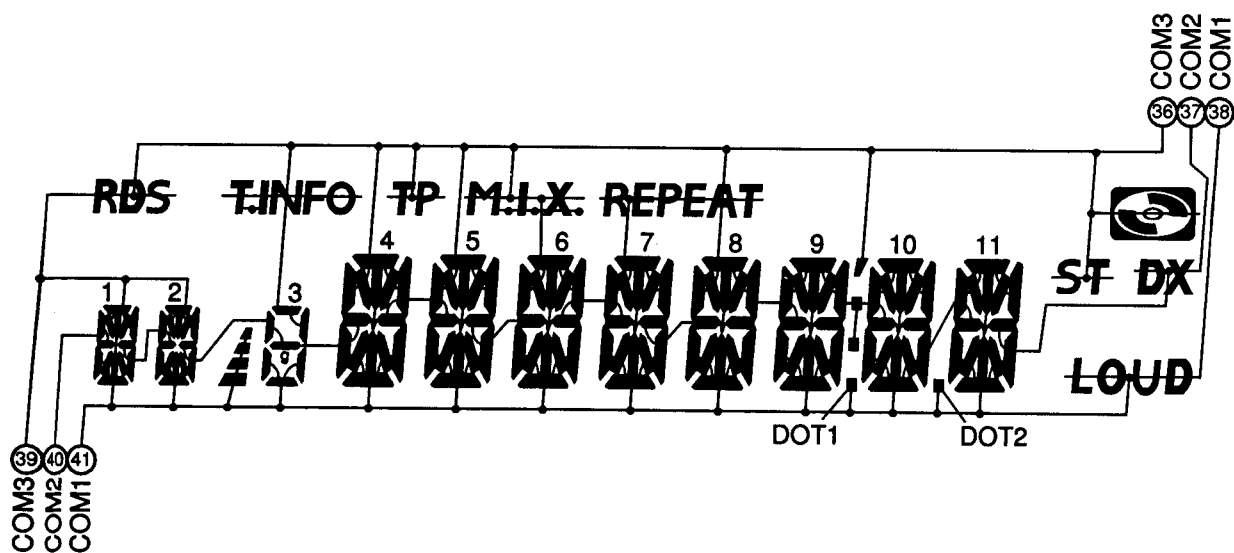
No.	Symbol	I/O	Terminal Description
76	S-METER	I	Signal Meter Input Terminal.
77	M/P	I	Multi Path Detector Terminal.
78	ADJON	I	Adjoining Rejection Detector Terminal.
79	T-SENS	I	Temperature Sensor Input Terminal.
80	NOSE	I	Front Panel Detection Terminal.

LCD Display

SEGMENT

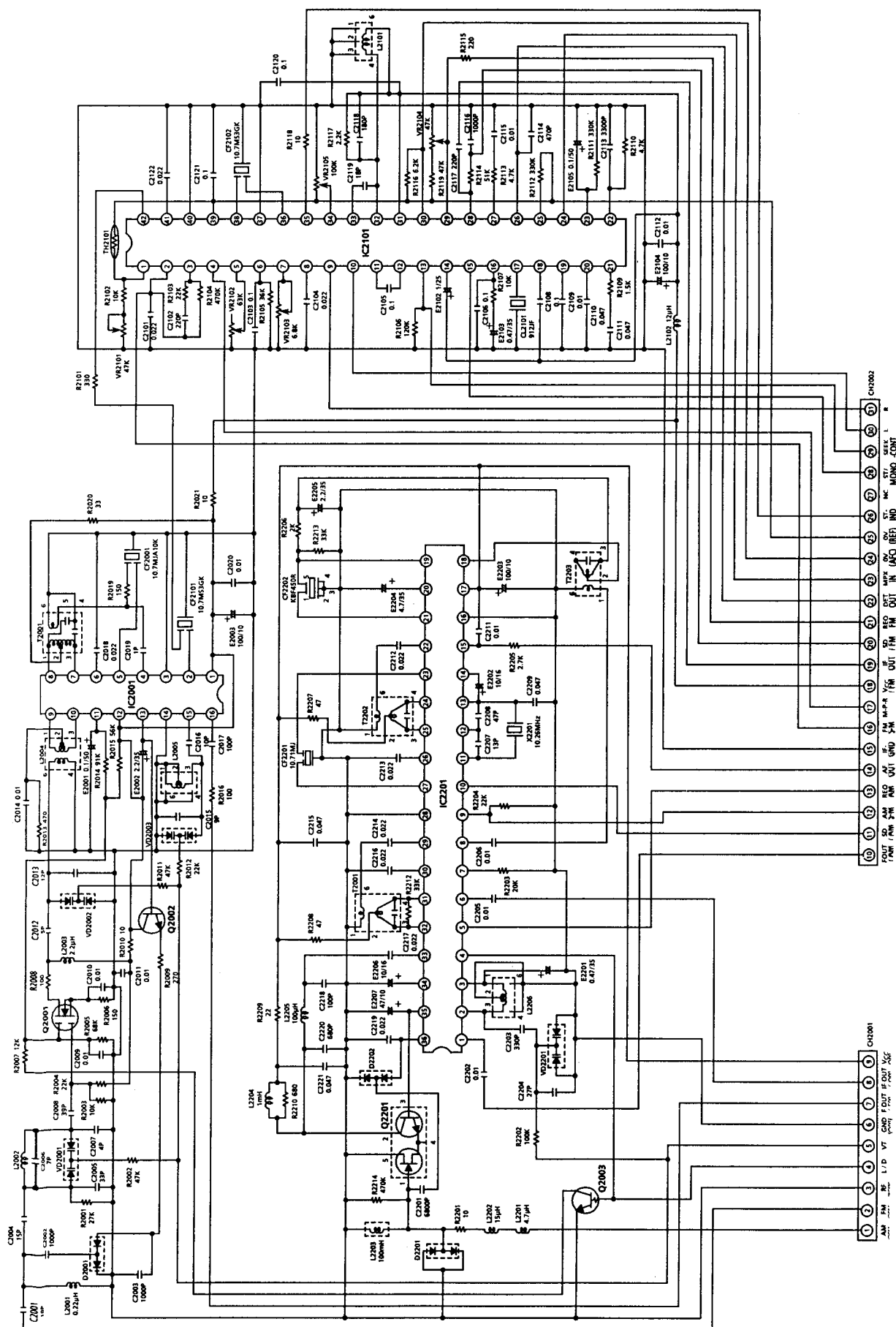


COMMON



PIN No.	COM1	COM2	COM3	PIN No.	COM1	COM2	COM3
1	1-e	1-f	RDS	44	3-d	3-g	3-a
2	1-m	1-k	1-h	45	3-c	3-f	3-b
3	1-d	1-i, 1-n	1-a	46		4-e	4-f
4	1-o	1-l	1-j	47	4-m	4-k	4-h
5	2-e	2-f	T.INFO	48	4-d	4-i, 4-n	4-a
6	2-m	2-k	2-h	49	4-o	4-l	4-j
7	2-d	2-i, 2-n	2-a	50	5-m	5-k	5-h
8	2-o	2-l	2-j	51	5-d	5-i, 5-n	5-a
9	4-c	4-b	TP	52	5-o	5-l	5-j
10	5-e	5-f	5-b	53	6-m	6-k	6-h
11~24	NC	NC	NC	54	6-d	6-i, 6-n	6-a
25	6-e	5-c	6-f	55	6-o	6-l	6-j
26	6-c	6-b	M.I.X.	56	7-m	7-k	7-h
27	7-e	7-f	7-b	57	7-d	7-i, 7-n	7-a
28	8-e	7-c	8-f	58	7-o	7-l	7-j
29	8-c	8-b	REPEAT	59	8-m	8-k	8-h
30	9-e	9-f		60	8-d	8-i, 8-n	8-a
31	9-c	9-b		61	8-o	8-l	8-j
32	10-e	10-f		62	9-m	9-k	9-h
33	10-o	10-l	10-j	63	9-d	9-i, 9-n	9-a
34	DOT2	10-c	10-b	64	9-o	9-l	9-j
35	11-e	11-f	ST	65	DOT1	■	/
36			COM3	66	10-m	10-k	10-h
37		COM2		67	10-d	10-i, 10-n	10-a
38	COM1			68	11-m	11-k	11-h
39			COM3	69	11-d	11-i, 11-n	11-a
40		COM2		70	11-o	11-l	11-j
41	COM1			71	LOUD	11-c	11-b
42		1-c	1-b	72		DX	
43	3-e	2-c	2-b	73~76	NC	NC	NC

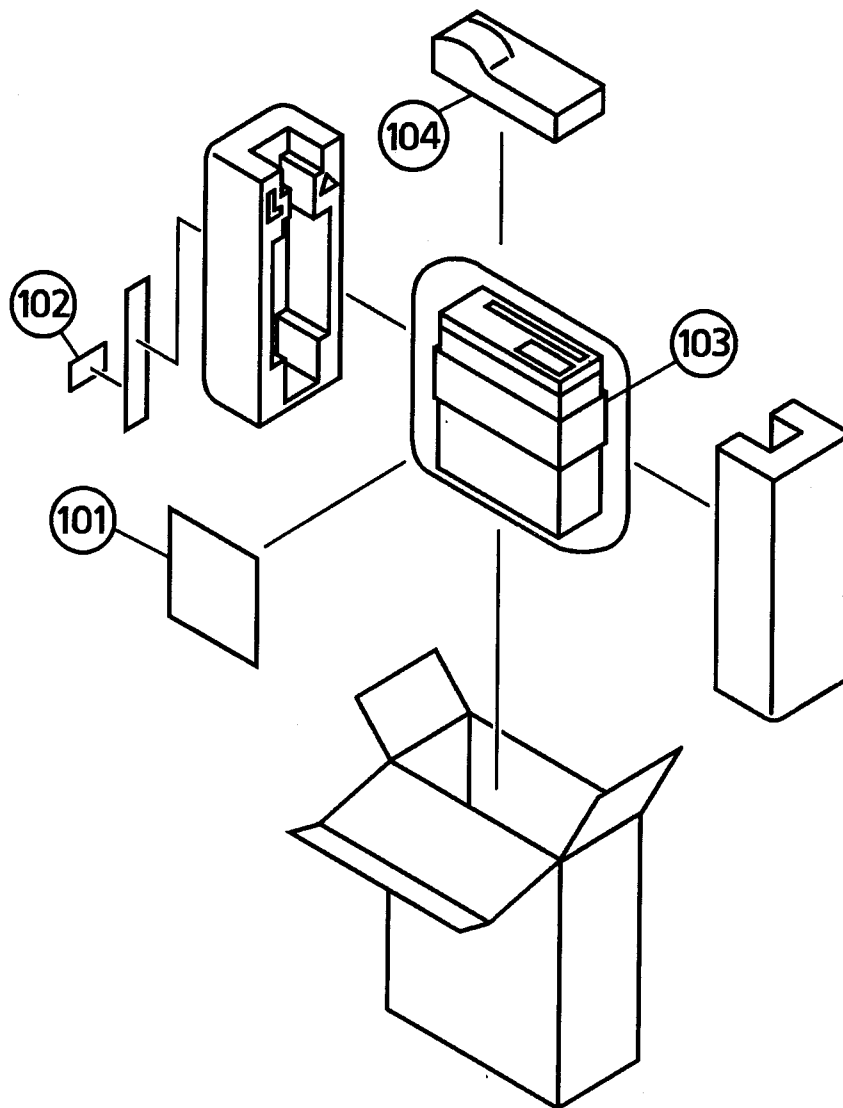
Tuner Schematic Diagram



Packing Assembly Parts List

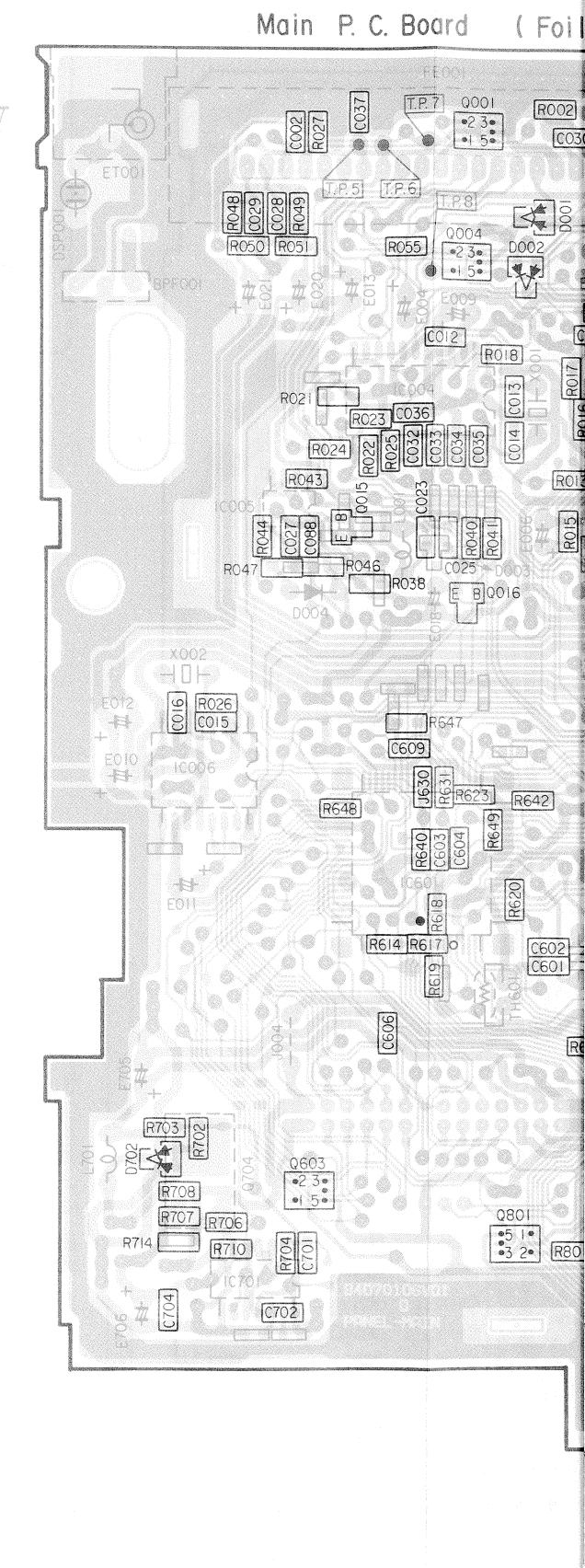
Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
101	68P61329W61	Owner's Manual			
102-1	02B47353F01	Nut, Hex. (M5)			
102-2	03S72235F13	Screw, Countersink (M5×8)			
102-3	46A42363F01	Stud, Bolt			
102-4	36A11113W01	Cap, Rubber (A)			
102-5	03A11112W01	Bolt, Hex. (M5×25)			
102-6	01T75363W01	ISO / JASO Antenna Adapter			
103	15D50406W01	Case, Inner			
104	15D60773W01	Carrying, Case			

Packing Method View



5

Notes: ○ : For CDE-7822R Model Only,
● : For CDE-7820R Model Only,
Others : Common



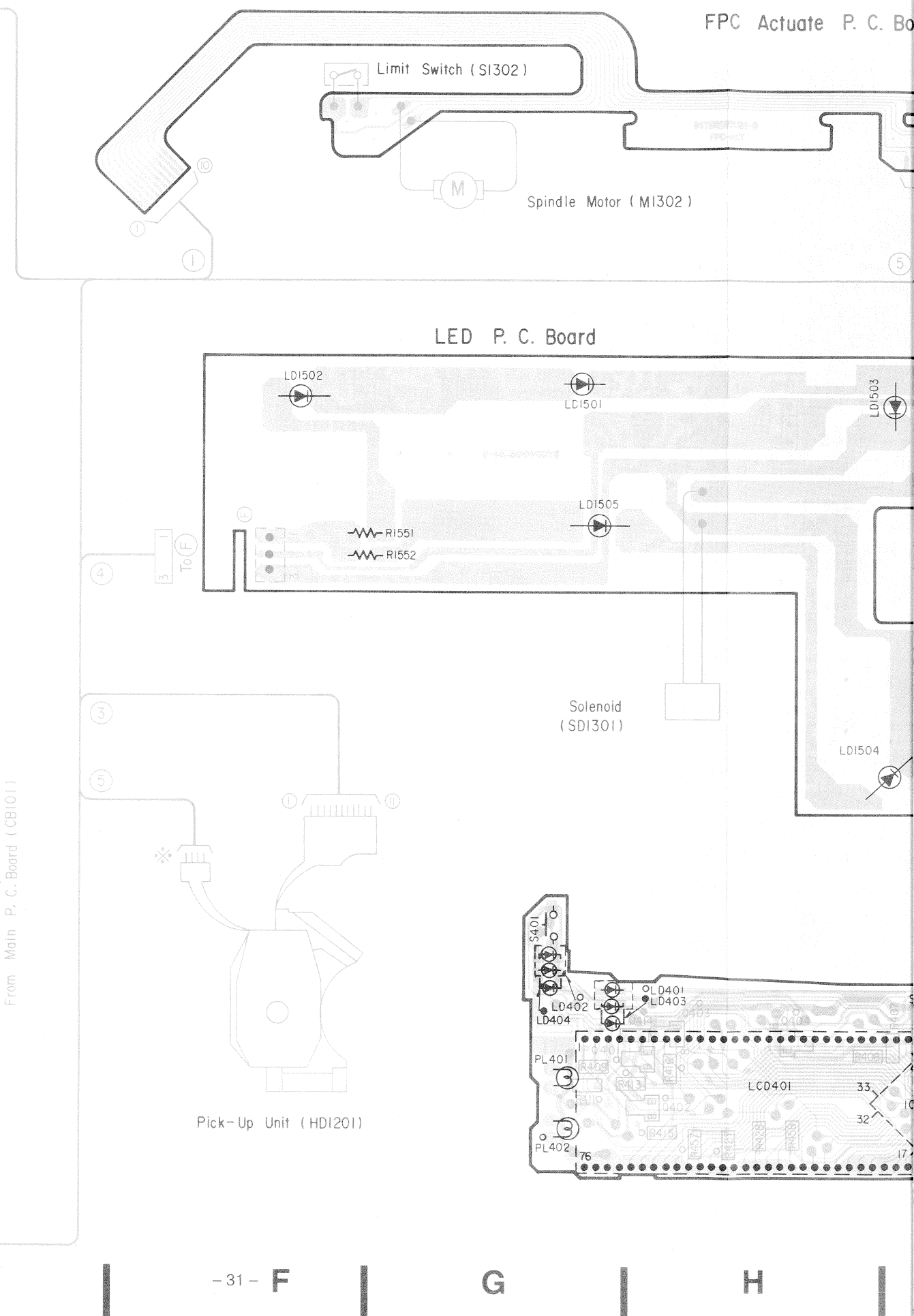
Main P. C. Board (Foil

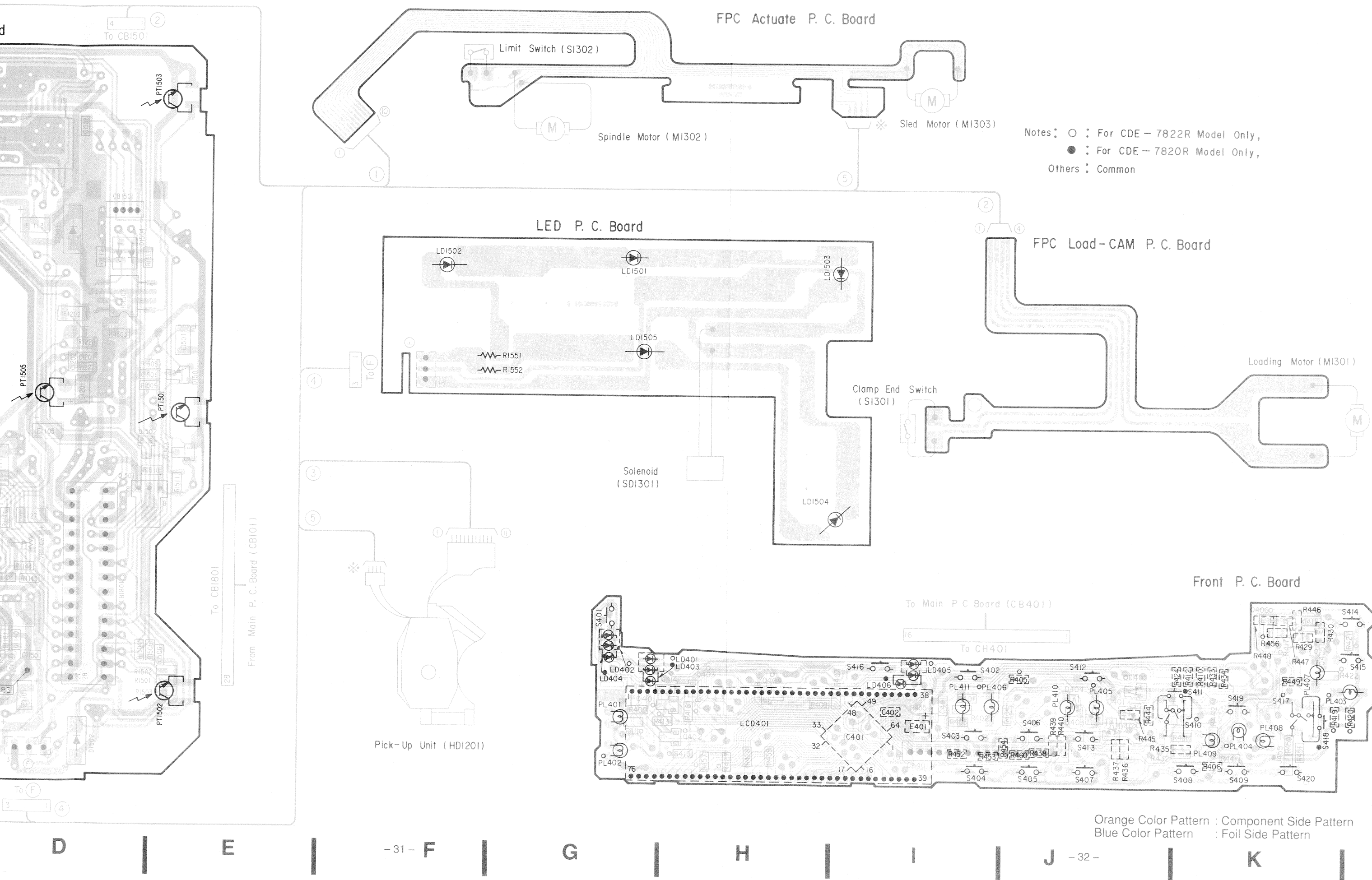
F

To Front P. C. Board (CH401)

Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern

All P.C. Boards viewed from soldered side.





Schematic Diagram (1/4)

1

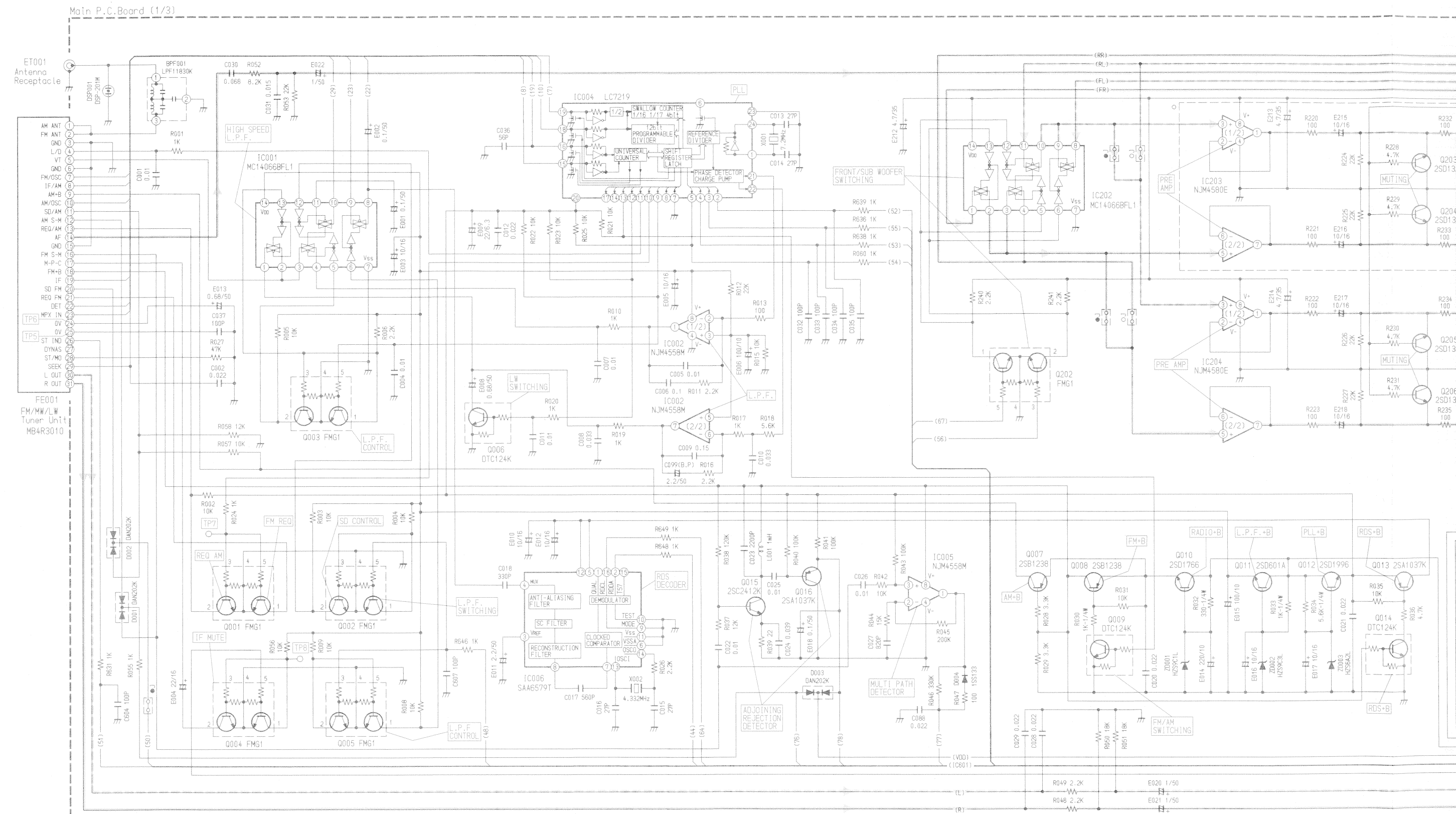
IC	IC001		IC006		IC004	IC002	IC005		IC202		IC203	IC204									
Transistor (Q)	Q001	Q004	Q003	Q002	Q005	Q006	Q015	Q016	Q007	Q202	Q008	Q009	Q010	Q011	Q012	Q013	Q014	Q203	Q204	Q205	Q206

2

3

4

5



A

B - 33 -

C

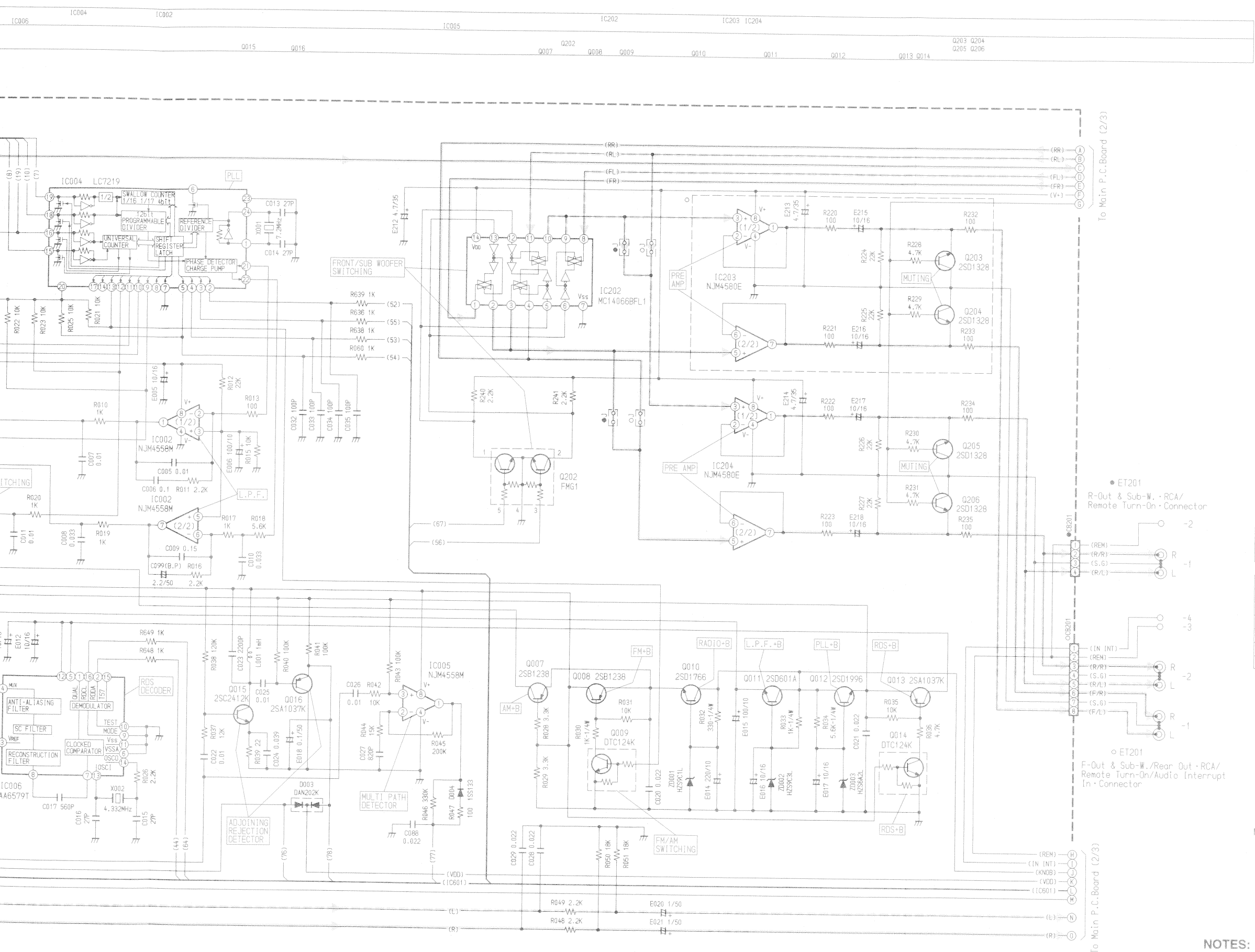
D

E

F - 34 -

G

H



IC001	IC002	IC004	IC005
1 8.32V	1 4.15V	1 2.3V 13 3.61V	1 4.94V
2 4.15V	2 2.85V	2 PS 14 NC	2 4.96V
3 4.15V	3 2.84V	3 PS 15 0V	3 4.9V
4 4.15V	4 0V	4 PS 16 0V	4 0V
5 9.07V	5 2.84V	5 PS 17 NC	5 NC
6 9.07V	6 2.85V	6 NC 18 PS	6 NC
7 0V	7 8.6V	7 0V 19 PS	7 NC
8 2.46V	8 9.09V	8 0V 20 5.02V	8 8.94V
9 2.47V		9 3.65V 21 2.84V	
10 2.11V		10 4.09V 22 2.84V	
11 2.11V		11 0V 23 0V	
12 9.07V		12 0V 24 2.59V	
13 0V			
14 9.07V			

IC006	IC202	IC203	IC204
1 NC 9 0V	1 4.48V 8 4.48V	1 4.48V	
2 PS 10 0V	2 4.48V 9 4.48V	2 4.48V	
3 2.47V 11 0V	3 4.48V 10 4.48V	3 4.48V	
4 2.4V 12 4.94V	4 4.48V 11 4.48V	4 0V	
5 4.93V 13 2.11V	5 0V 12 0V	5 4.48V	
6 0V 14 2.72V	6 8.88V 13 8.86V	6 4.48V	
7 2.45V 15 NC	7 0V 14 8.88V	7 4.48V	
8 2.5V 16 PS		8 8.88V	

	E	C	B		E	C	B
Q006	0V	0.9V	0V	Q014	0V	0V	8.99V
Q007	9.02V	8.96V	8.3V	Q015	0.3V	8.62V	0.97V
Q008	9.02V	8.96V	8.32V	Q016	4.92V	0V	4.92V
Q009	0V	3.61V	0V	Q203	0.03V	0.01V	0.72V
Q010	9.02V	14.08V	9.52V	Q204	0.03V	0.01V	0.72V
Q011	9.08V	14.08V	9.71V	Q205	0.03V	0.01V	0.72V
Q012	4.96V	14.08V	5.51V	Q206	0.03V	0.01V	0.72V
Q013	4.96V	4.93V	4.28V				

	1	2	3	4	5
Q001	0V	0V	4.53V	0V	4.53V
Q002	0V	9.08V	0V	0V	4.82V
Q003	0V	9.07V	0V	0V	3.64V
Q004	6.44V	0V	6.44V	0V	0V
Q005	9.07V	0V	4.82V	0V	0V
Q002	8.88V	8.88V	5.23V	0V	5.23V

- [Measuring Conditions]
- Power Supply Voltage : DC14.4V
 - Measuring Meter : Digital Multi Voltmeter
 - Measuring Point Reference : Between Ground
 - Measuring Conditions : CD : Be Playing back the 2nd. Music of the Test CD (YEDS-18)
 - FM : 98.1MHz
 - MW : 999kHz
 - LW : 216kHz

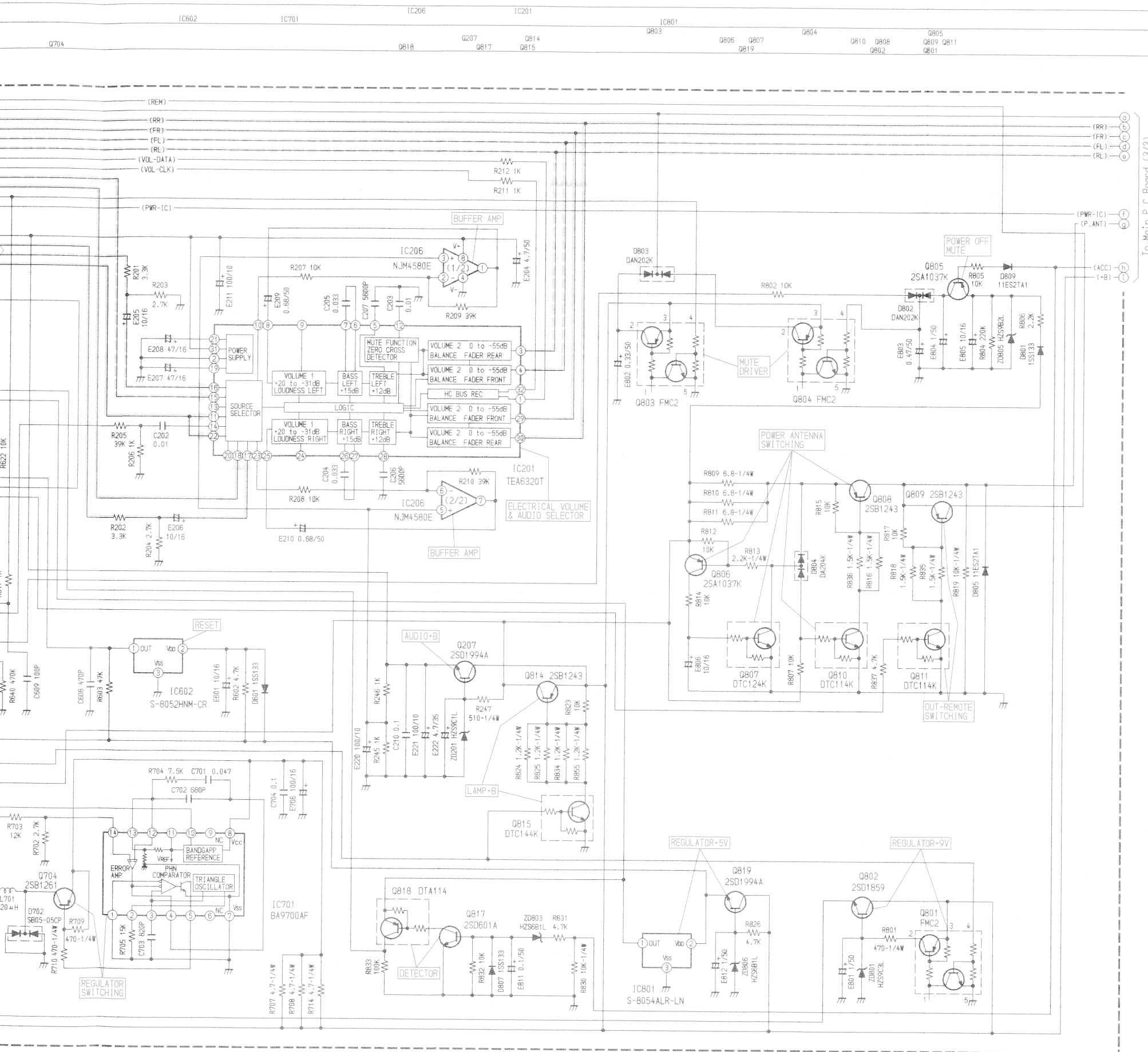
Notes : ○ : For CDE-7822R Model Only,
● : For CDE-7820R Model Only,
Others : Common.

NOTES:
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

5

Main P.C.Board (2/3)





IC201

1	4.75V	17	4.45V
2	0V	18	4.45V
3	4.44V	19	8.76V
4	4.45V	20	NC
5	4.46V	21	4.46V
6	4.46V	22	4.45V
7	4.45V	23	4.47V
8	4.4V	24	NC
9	NC	25	4.46V
10	4.45V	26	4.4V
11	4.45V	27	4.47V
12	8.78V	28	4.47V
13	NC	29	4.46V
14	4.45V	30	4.42V
15	4.45V	31	8.86V
16	4.45V	32	5.24V

IC206

1	4.31
2	4.45
3	4.44
4	0V
5	4.45
6	4.45
7	4.33
8	8.85

IC601

1	5.17V	21	NC	41	PS	61	0V
2	5.17V	22	NC	42	5.05V	62	4.81V
3	5.17V	23	5.24V	43	0V	63	4.82V
4	0V	24	0V	44	PS	64	PS
5	0V	25	0V	45	NC	65	5.23V
6	4.72V	26	0V	46	0V	66	4.77V
7	5.2V	27	0V	47	0V	67	5.22V
8	5.18V	28	0V	48	5.18V	68	5.23V
9	NC	29	0V	49	NC	69	PS
10	5.22V	30	0V	50	0V	70	PS
11	5.24V	31	0V	51	5.2V	71	0V
12	PS	32	5.19V	52	PS	72	NC
13	PS	33	0V	53	PS	73	0V
14	PS	34	5.06V	54	PS	74	7.23V
15	NC	35	0V/5.6V	55	PS	75	7.23V
16	NC	36	PS	56	0V	76	4.84V
17	NC	37	PS	57	5.22V	77	4.76V
18	4.78V	38	PS	58	5.22V	78	4.88V
19	5.18V	39	PS	59	4.81V	79	5.05V
20	NC	40	PS	60	5.22V	80	2.13V

MODE : 35Pin : DISC IN/DISC OUT

IC701

1	0V	8	13.99V
2	0.93V	9	NC
3	1.77V	10	5.2V
4	1.38V	11	NC
5	11.07V	12	1.31V
6	NC	13	1.31V
7	0V	14	1.37V

	E	C	B
Q207	8.94V	14.3V	9.54V
Q704	13.99V	7.54V	13.69V
Q802	9.12V	14.27V	9.72V
Q805	8.86V	0V	8.35V
Q806	14.12V	0V	14.11V
Q807	0V	14.1V	0V
Q808	14.01V	14.03V	13.38V
Q809	14.03V	14.03V	13.37V
Q810	0V	0V	7.02V
Q811	0V	0V	3.72V
Q812	0V	4.29V	0V
Q814	14.26V	14.18V	13.51V
Q815	0V	3.48V	5.2V
Q817	0V	0V	0.7V
Q818	4.81V	4.8V	0V
Q819	5.19V	14.26V	5.79V

	1	2	3	4	5
Q602	0V	8.91V	9V	5.21V	0V
Q603	NC	5V	5.23V	5.2V	0V
Q801	NC	14.25V	14.29V	5.17V	0V
Q803	NC	0V	14.28V	0V	0V
Q804	NC	14.14V	14.26V	3.49V	0V

[Measuring Conditions]

- Power Supply Voltage : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions : CD : Be Playing back the 2nd.
Music of the Test CD (YEDS-18)
FM : 98.1MHz
MW : 999kHz
LW : 216kHz

Notes : ○ : For CDE-7822R Model Only,
● : For CDE-7820R Model Only,
Others : Common.

NOTES:

1. All resistance values are in ohms. $K = 1,000$
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

1

2

B — 39 —

C

D

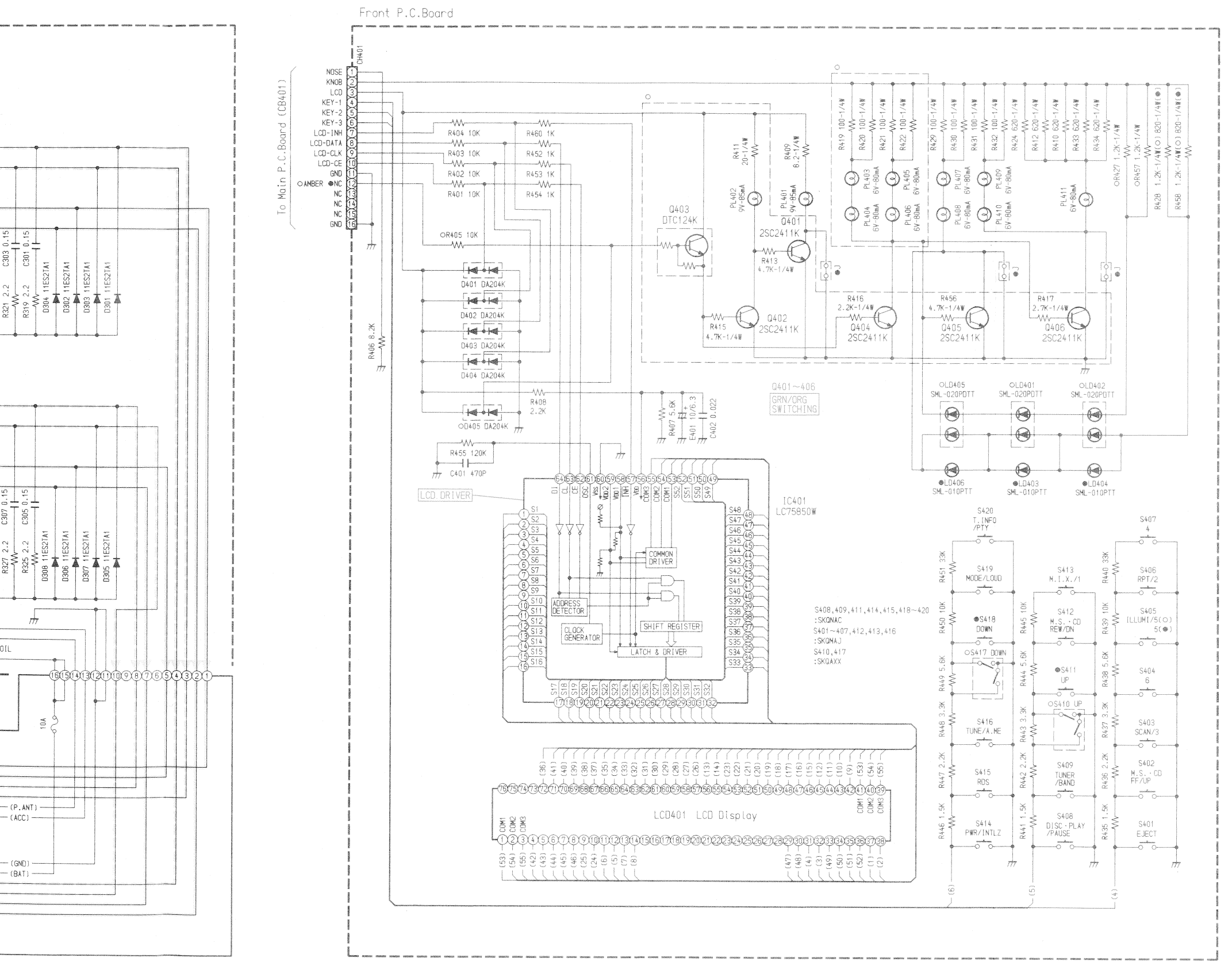
E

F - 40 -

G

H

5



IC301, IC302

1	4.99V	10	14.27V
2	4.92V	11	PS
3	4.99V	12	PS
4	3.51V	13	0V
5	0V	14	0V
6	4.99V	15	PS
7	4.99V	16	PS
8	4.99V	17	14.27V
9	14.27V		

	E	C	B
Q301	0.03V	0.01V	0.72V
Q302	0.03V	0.01V	0.72V
Q303	0.03V	0.01V	0.72V
Q304	0.03V	0.01V	0.72V
Q401	0V	9.04V	0.27V
Q402	0V	0.27V	0.79V
Q403	3.4V	9.15V	4.74V
Q404	0V	0.3V	0.81V
Q405	0V	13.67V	0.32V
Q406	0V	13.67V	0.33V

[Measuring Conditions]

- Power Supply Voltage : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions : CD : Be Playing back the 2nd.
Music of the Test CD (YEDS-18)
FM : 98.1MHz
MW : 999kHz
LW : 216kHz

Notes : ○ : For CDE-7822R Model Only,
● : For CDE-7820R Model Only,
Others : Common.

NOTES:

- All resistance values are in ohms. K = 1,000
- All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

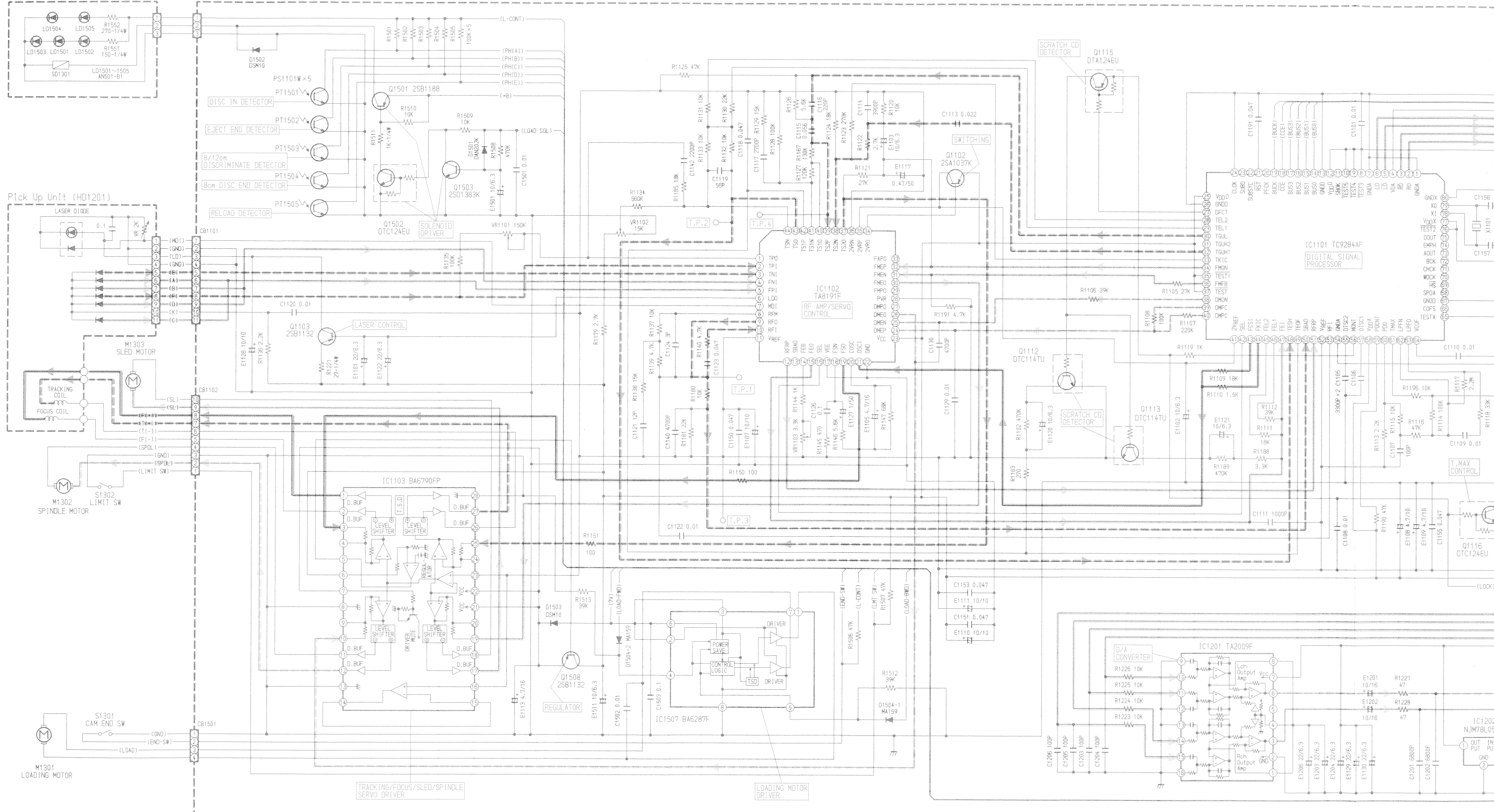
Schematic Diagram (4/4)

1

IC	PT1501 PT1502 PT1503 PT1504 PT1505 Q1103	IC1103 Q1502 Q1501	Q1503	IC1507	IC1102	Q1102	Q1112	Q1115	Q1113	IC1201	IC1101	IC1202
Transistor (Q,PT)												

LED P.C.Board

DP-Main P.C.Board



2

3

4

5

A

B - 42 -

C

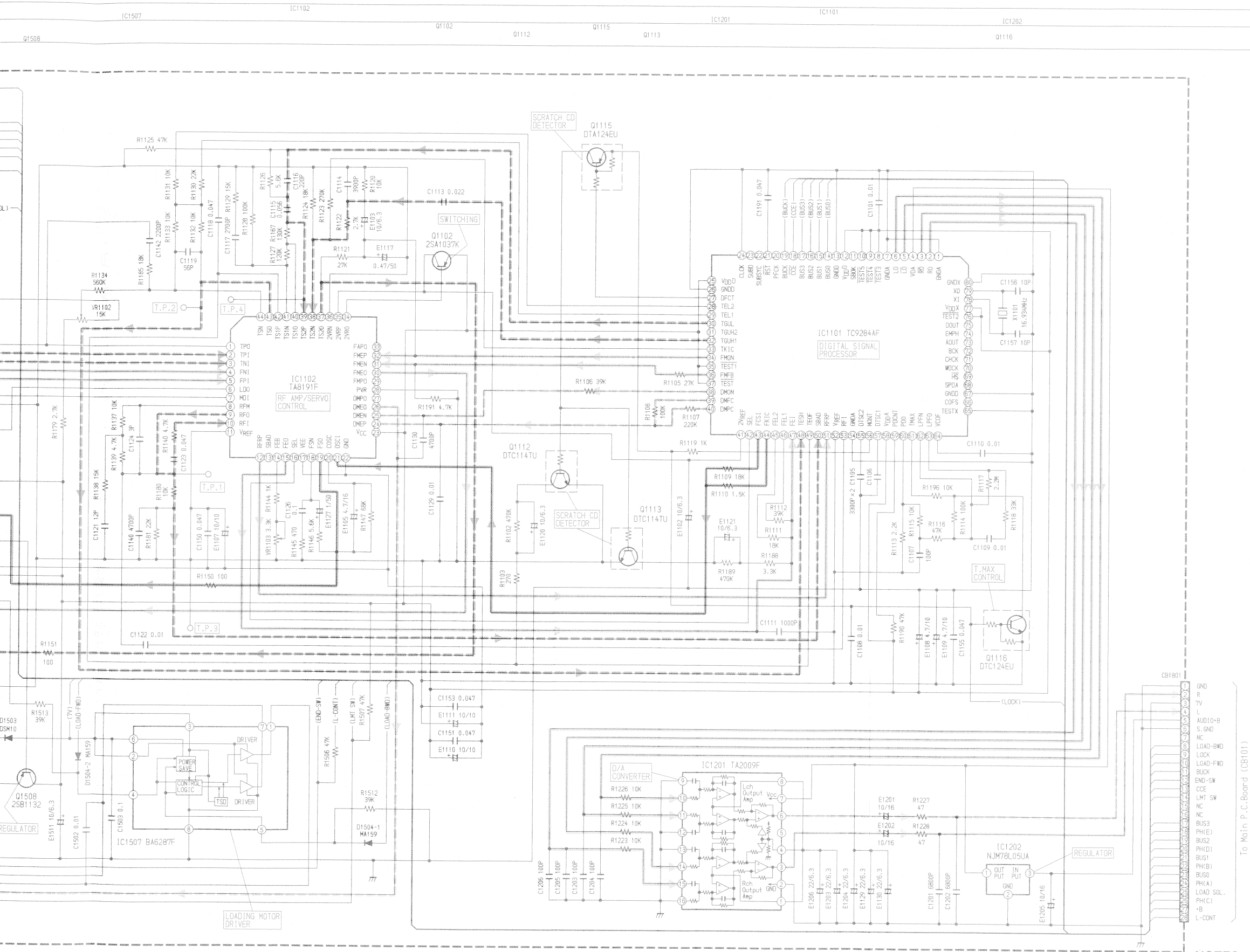
D

E

- 43 - F

G

H



IC1101										IC1102										IC1103									
1	0V	21	5V	41	4.3V	61	2.2V			1	1.7V	23	5V			1	2.8V	15	5.5V	1	2.8V	15	5.5V						
2	2.4V	22	PS	42	5V	62	2.2V			2	2V	24	PS			2	3V	16	2.1V	2	3V	16	2.1V						
3	2.6V	23	PS	43	2.6V	63	2.2V			3	2V	25	2.1V			3	2.2V	17	3.1V	3	2.2V	17	3.1V						
4	5V	24	0V	44	2.6V	64	2.1V			4	2V	26	PS			4	2.2V	18	2.6V	4	2.2V	18	2.6V						
5	2.6V	25	5V	45	2.2V	65	0V			5	2V	27	PS			5	5.6V	19	2V	5	5.6V	19	2V						
6	2.4V	26	0V	46	2.2V	66	PS			6	3.9V	28	2.1V			6	5.1V	20	2.2V	6	5.1V	20	2.2V						
7	0V	27	5V	47	2.2V	67	0V			7	0.1V	29	2.1V			7	6.3V	21	6.2V	7	6.3V	21	6.2V						
8	5V	28	2.2V	48	2.2V	68	0.1V			8	2.1V	30	2V			8	0V	22	6.2V	8	0V	22	6.2V						
9	5V	29	2.2V	49	2.2V	69	5V			9	PS	31	2V			9	2.2V	23	2.1V	9	2.2V	23	2.1V						
10	5V	30	2.2V	50	2.5V	70	PS			10	PS	32	2.1V			10	2.4V	24	2.2V	10	2.4V	24	2.2V						
11	PS	31	0V	51	2.4V	71	PS			11	2.1V	33	PS			11	3.2V	25	2.1V	11	3.2V	25	2.1V						
12	5V	32	2.2V	52	2.2V	72	PS			12	PS	34	4.4V			12	2.6V	26	2.7V	12	2.6V	26	2.7V						
13	0V	33	2.2V	53	PS	73	PS			13	2.7V	35	4.3V			13	0V	27	3V	13	0V	27	3V						
14	PS	34	2.2V	54	0V	74	0.1V			14	2V	36	2.1V			14	5.8V	28	0V										
15	PS	35	5V	55	2.6V	75	0.1V			15	PS	37	PS																
16	PS	36	2.2V	56	5V	76	5V			16	4.9V	38	2V																
17	PS	37	5V	57	2.6V	77	5V			17	0V	39	2V			1	2.5V	9	0V										
18	PS	38	2.2V	58	5V	78	PS			18	PS	40	PS			2	0V	10	2.4V										
19	PS	39	PS	59	5V	79	PS			19	PS	41	2V			3	2.5V	11	2.6V										
20	PS	40	PS	60	PS	80	0V			20	PS	42	2.1V			4	2.5V	12	0V										
										21	2.4V	43	2.1V			5	NC	13	0V										
										22	0V	44	2.1V			6	2.5V	14	2.6V										
																7	5V	15	2.4V										
																8	2.5V	16	0V										

IC1202		IC1507			
1	9V	1	0V	5	0V
2	0V	2	7.1V	6	7.1V
3	5V	3	7.1V	7	0V
		4	0V	8	0V

	E	C	B
Q1102	5V	4.5V	4.3V
Q1103	4.5V	4V	1.8V
Q1112	2.2V	0V	2.2V
Q1113	2.2V	0V	2.2V
Q1115	5V	5V	0V
Q1116	2.1V	5V	2.1V
Q1501	14V	14V	0V
Q1502	0V	0V	14V
Q1503	0V	0V	0V
Q1508	6.3V	5.6V	5.1V

[Measuring Conditions]

- Power Supply Voltage : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions : CD : Be Playing back the 2nd.
Music of the Test CD (YEDS-18)
FM : 98.1MHz
MW : 999kHz
LW : 216kHz

To Main P.C. Board (CB101)

- R-ch Signal Line
- L-ch Signal Line
- CD Signal Line (Digital)
- Focus Servo Signal Line
- Tracking Servo Signal Line
- Sled Servo Signal Line
- Spindle Servo Signal Line

NOTES:

- All resistance values are in ohms. K = 1,000
- All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

Electrical Parts List

Resistor : Carbon resistors under 1 / 4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

Capacitor : μ F = microfarads, pF = picofarads

Abbreviations			
RES. = Resistor	CAP. = Capacitor		
C.F. = Carbon Film	ELY. = Electrolytic		
M.F. = Metal Film	CER. = Ceramic		
M.O. = Metal Oxide Film	MYL. = Mylar		
M.P. = Metal Plate	TAN. = Tantalum		
TR. = Transistor	POLY. = Polystyrol		
TRANS. = Transformer	PP. = Polypropylene		
CP. = Chip	PLT. = Polyethylene		
	PF. = Polyester Film		

Symbol No.	Part No.	Description	
Main P. C. Board			
IC's			
○	IC001	51T40941U03 MC14066BFL1	
	IC002	51T93336F01 NJM4558M	
	IC004	51T35504W02 LC7219	
	IC005	51T93336F01 NJM4558M	
	IC006	51T55054W02 SAA6579T	
	IC201	51T65131W01 TEA6320T	
	IC202	51T40941U03 MC14066BFL1	
	IC203	51T25576W04 NJM4580E	
	IC204	51T25576W04 NJM4580E	
	IC206	51T25576W04 NJM4580E	
	IC301	51T35133W01 TA8215L	
	IC302	51T35133W01 TA8215L	
	IC601	51T75099W03 75099W03	
	IC602	51T95014F13 S-8052HNM-CR	
	IC701	51T35436W02 BA9700AF	
	IC801	51T95014F09 S-8054ALR-LN	
	Transistors		
		Q001	48T73888F08 CP., FMG1
		Q002	48T73888F08 CP., FMG1
		Q003	48T73888F08 CP., FMG1
		Q004	48T73888F08 CP., FMG1
		Q005	48T73888F08 CP., FMG1
		Q006	48T62967F03 CP., DTC124K
		Q007	48T84234F03 2SB1238
		Q008	48T84234F03 2SB1238
Q009		48T62967F03 CP., DTC124K	
Q010		48T80615F01 CP., 2SD1766	
Q011		48T52438F01 CP., 2SD601A	
Q012		48T90183F01 2SD1996	
Q013		48T63420F01 CP., 2SA1037K	
Q014		48T62967F03 CP., DTC124K	
Q015		48T63417F01 CP., 2SC2412K	

Symbol No.	Part No.	Description
○	Q016	48T63420F01 CP., 2SA1037K
	Q202	48T73888F08 CP., FMG1
	Q203	48T63788F01 CP., 2SD1328
	Q204	48T63788F01 CP., 2SD1328
	Q205	48T63788F01 CP., 2SD1328
	Q206	48T63788F01 CP., 2SD1328
	Q207	48T93828F04 2SD1994A
	Q301	48T63788F01 CP., 2SD1328
	Q302	48T63788F01 CP., 2SD1328
	Q303	48T63788F01 CP., 2SD1328
	Q304	48T63788F01 CP., 2SD1328
	Q602	48T73888F11 CP., FMC1
	Q603	48T73888F12 CP., FMC2
	Q704	48T15511W02 CP., 2SB1261
	Q801	48T73888F12 CP., FMC2
	Q802	48T83835F03 2SD1859
	Q803	48T73888F12 CP., FMC2
	Q804	48T73888F12 CP., FMC2
	Q805	48T63420F01 CP., 2SA1037K
	Q806	48T63420F01 CP., 2SA1037K
	Q807	48T62967F03 CP., DTC124K
	Q808	48T84366F01 2SB1243
	Q809	48T84366F01 2SB1243
	Q810	48T62967F02 CP., DTC114K
	Q811	48T62967F02 CP., DTC114K
Q812	48T52438F01 CP., 2SD601A	
Q814	48T84366F01 2SB1243	
Q815	48T62967F04 CP., DTC144K	
Q817	48T52438F01 CP., 2SD601A	
Q818	48T62966F02 CP., DTA114	
Q819	48T93828F04 2SD1994A	
Diodes / Surge Protector		
	D001	48T63462F01 CP., DAN202K
	D002	48T63462F01 CP., DAN202K
	D003	48T63462F01 CP., DAN202K
	D004	48T68828F01 1S5133
	D301	48T84052F01 11ES2TA1
	D302	48T84052F01 11ES2TA1
	D303	48T84052F01 11ES2TA1
	D304	48T84052F01 11ES2TA1
	D305	48T84052F01 11ES2TA1
	D306	48T84052F01 11ES2TA1
	D307	48T84052F01 11ES2TA1
	D308	48T84052F01 11ES2TA1

Notes : ○ : For CDE-7822R Model Only, ● : For CDE-7820R Model Only, Others : Common.

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
D310	48T68580F02	DSA3A4	C006	08T35122W13	PF., 0.1µF
D601	48T68828F01	1SS133	E006	23T25149W13	ELY., 100µF / 10V
D702	48T15702W01	CP., S805-05CP	C007	08S65128F69	CP., 0.01µF
D801	48T68828F01	1SS133	C008	08T15399W02	CP., 0.033µF
D802	48T63462F01	CP., DAN202K	E008	23T25149W14	ELY., 0.68µF / 50V
D803	48T63462F01	CP., DAN202K	C009	08T35122W15	PF., 0.15µF
D804	48T64134F01	CP., DA204K	E009	23T25149W16	ELY., 22µF / 6.3V
D805	48T84052F01	11ES2TA1	C010	08T15399W02	CP., 0.033µF
D807	48T68828F01	1SS133	E010	23T25149W09	ELY., 10µF / 16V
D809	48T84052F01	11ES2TA1	C011	08S65128F69	CP., 0.01µF
ZD001	48T83128F25	Zener, HZS9C1L	E011	23T25149W06	ELY., 2.2µF / 50V
ZD002	48T83128F27	Zener, HZS9C3L	C012	08S65128F78	CP., 0.022µF
ZD003	48T83128F02	Zener, HZS6A2L	E012	23T25149W09	ELY., 10µF / 16V
ZD201	48T83128F25	Zener, HZS9C1L	C013	08S82122F23	CP., 27pF
ZD801	48T83128F27	Zener, HZS9C3L	E013	23T25149W14	ELY., 0.68µF / 50V
ZD803	48T83128F04	Zener, HZS6B1L	C014	08S82122F23	CP., 27pF
ZD805	48T83128F23	Zener, HZS9B2L	E014	23S16086W01	ELY., 220µF / 10V
ZD806	48T83128F04	Zener, HZS6B1L	C015	08S82122F23	CP., 27pF
DSP001	48T81048F02	Surge Protector, DSP-201M	E015	23T25149W13	ELY., 100µF / 10V
Crystals			C016	08S82122F23	CP., 27pF
X001	91T45118W43	7.2MHz	E016	23T25149W09	ELY., 10µF / 16V
X002	91T45118W18	4.332MHz	C017	08S82122F55	CP., 560pF
X601	91T45118W27	4.9152MHz	E017	23T25149W09	ELY., 10µF / 16V
Coils			C018	08S82122F49	CP., 330pF
L001	24T25798W13	Inductor, 1mH	E018	23T25149W01	ELY., 0.1µF / 50V
L701	24T16271W13	220µH	C020	08S65128F78	CP., 0.022µF
L801	24T75055W04	Choke	E020	23T25149W05	ELY., 1µF / 50V
Thermistor / Filter			C021	08S65128F78	CP., 0.022µF
TH601	48T93439F06	100K ohm	E021	23T25149W05	ELY., 1µF / 50V
BPF001	91T75257W01	Filter, LPF11830K	C022	08S65128F69	CP., 0.01µF
Capacitors			E022	23T25149W05	ELY., 1µF / 50V
C001	08S65128F69	CP., 0.01µF	C023	08S65128F61	CP., 2200pF
E001	23T25149W01	ELY., 0.1µF / 50V	C024	08S65128F81	CP., 0.039µF
C002	08S65128F78	CP., 0.022µF	C025	08S65128F69	CP., 0.01µF
E002	23T25149W01	ELY., 0.1µF / 50V	C026	08S65128F69	CP., 0.01µF
E003	23T25149W09	ELY., 10µF / 16V	C027	08S82122F59	CP., 820pF
C004	08S65128F69	CP., 0.01µF	C028	08S65128F78	CP., 0.022µF
E004	23T25149W10	ELY., 22µF / 16V	C029	08S65128F78	CP., 0.022µF
C005	08S65128F69	CP., 0.01µF	C030	08S53332F64	CP., 0.068µF
E005	23T25149W09	ELY., 10µF / 16V	C031	08S65128F71	CP., 0.015µF
C032	08S82122F37	CP., 100pF	C032	08S82122F37	CP., 100pF
C033	08S82122F37	CP., 100pF	C033	08S82122F37	CP., 100pF
C034	08S82122F37	CP., 100pF	C034	08S82122F37	CP., 100pF
C035	08S82122F37	CP., 100pF	C035	08S82122F37	CP., 100pF
C036	08S82122F31	CP., 56pF	C036	08S82122F31	CP., 56pF
C037	08S82122F37	CP., 100pF	C037	08S82122F37	CP., 100pF
C088	08S65128F78	CP., 0.022µF	C088	08S65128F78	CP., 0.022µF
C099	23T82372F19	ELY., (B.P) 2.2µF / 50V	C099	23T82372F19	ELY., (B.P) 2.2µF / 50V
C202	08S65128F69	CP., 0.01µF	C202	08S65128F69	CP., 0.01µF
C203	08S65128F69	CP., 0.01µF	C203	08S65128F69	CP., 0.01µF
C204	08T35122W07	PF., 0.033µF	C204	08T35122W07	PF., 0.033µF
E204	23T25149W08	ELY., 4.7µF / 50V	E204	23T25149W08	ELY., 4.7µF / 50V

Notes : ○ : For CDE-7822R Model Only, ● : For CDE-7820R Model Only, Others : Common.

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
C205	08T35122W07	PF., 0.033μF	C604	08S82122F37	CP., 100pF
E205	23T25149W09	ELY., 10μF / 16V	C605	08S65128F78	CP., 0.022μF
C206	08T35122W39	PF., 5600pF	C606	08S65128F69	CP., 0.01μF
E206	23T25149W09	ELY., 10μF / 16V	C607	08S82122F37	CP., 100pF
C207	08T35122W39	PF., 5600pF	C608	08S82122F53	CP., 470pF
E207	23T25149W12	ELY., 47μF / 16V	C609	08S82122F37	CP., 100pF
E208	23T25149W12	ELY., 47μF / 16V	C701	08T15399W03	CP., 0.047μF
E209	23T25149W14	ELY., 0.68μF / 50V	C702	08S82122F57	CP., 680pF
C210	08T35122W13	PF., 0.1μF	C703	08S82122F59	CP., 820pF
E210	23T25149W14	ELY., 0.68μF / 50V	C704	08S53332F67	CP., 0.1μF
E211	23T25149W13	ELY., 100μF / 10V	E705	23T55378W03	ELY., 470μF / 10V
E212	23T25149W15	ELY., 4.7μF / 35V	E706	23S16086W03	ELY., 100μF / 16V
E213	23T25149W15	ELY., 4.7μF / 35V	C801	08S65128F69	CP., 0.01μF
E214	23T25149W15	ELY., 4.7μF / 35V	E801	23T25149W05	ELY., 1μF / 50V
E215	23T25149W09	ELY., 10μF / 16V	E802	23T25149W03	ELY., 0.33μF / 50V
E216	23T25149W09	ELY., 10μF / 16V	E803	23T25149W04	ELY., 0.47μF / 50V
E217	23T25149W09	ELY., 10μF / 16V	E804	23T25149W05	ELY., 1μF / 50V
E218	23T25149W09	ELY., 10μF / 16V	E805	23T25149W09	ELY., 10μF / 16V
E220	23T25149W13	ELY., 100μF / 10V	E806	23T25149W09	ELY., 10μF / 16V
E221	23T25149W13	ELY., 100μF / 10V	E811	23T25149W01	ELY., 0.1μF / 50V
E222	23T25149W15	ELY., 4.7μF / 35V	E812	23T25149W05	ELY., 1μF / 50V
C301	08T35122W15	PF., 0.15μF	Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)		
E301	23T25149W09	ELY., 10μF / 16V			
C302	08T35122W15	PF., 0.15μF	R001	06S64995F53	1K ohm
E302	23T25149W09	ELY., 10μF / 16V	R002	06S64995F77	10K ohm
C303	08T35122W15	PF., 0.15μF	R003	06S64995F77	10K ohm
E303	23T25149W09	ELY., 10μF / 16V	R004	06S64995F77	10K ohm
C304	08T35122W15	PF., 0.15μF	R005	06S64995F77	10K ohm
E304	23T25149W09	ELY., 10μF / 16V	R006	06S64995F61	2.2K ohm
C305	08T35122W15	PF., 0.15μF	R008	06S64995F77	10K ohm
E305	23T25149W05	ELY., 1μF / 50V	R009	06S64995F77	10K ohm
C306	08T35122W15	PF., 0.15μF	R010	06S64995F53	1K ohm
E306	23T25149W05	ELY., 1μF / 50V	R011	06S64995F61	2.2K ohm
C307	08T35122W15	PF., 0.15μF	R012	06S64995F85	22K ohm
E307	23T25149W05	ELY., 1μF / 50V	R013	06S64995F29	100 ohm
C308	08T35122W15	PF., 0.15μF	R015	06S64995F77	10K ohm
E308	23T25149W05	ELY., 1μF / 50V	R016	06S64995F61	2.2K ohm
C309	08S53332F67	CP., 0.1μF	R017	06S64995F53	1K ohm
E309	23T55405W01	ELY., 10μF / 16V	R018	06S64995F71	5.6K ohm
C310	08S82122F61	CP., 1000pF	R019	06S64995F53	1K ohm
E310	23T55405W01	ELY., 10μF / 16V	R020	06S64995F53	1K ohm
E311	23T55405W01	ELY., 10μF / 16V	R021	06S64995F77	10K ohm
E312	23T55405W01	ELY., 10μF / 16V	R022	06S64995F77	10K ohm
E313	23T55378W01	ELY., 220μF / 10V	R023	06S64995F77	10K ohm
E314	23T55378W01	ELY., 220μF / 10V	R024	06S64995F53	1K ohm
E317	23T35505W05	ELY., 2200μF / 16V	R025	06S64995F77	10K ohm
E318	23T35505W05	ELY., 2200μF / 16V	R026	06S64995F61	2.2K ohm
C601	08S82122F17	CP., 15pF			
E601	23T25149W09	ELY., 10μF / 16V			
C602	08S82122F17	CP., 15pF			
E602	23S16086W01	ELY., 220μF / 10V			
C603	08S82122F37	CP., 100pF			

Notes : ○ : For CDE-7822R Model Only, ● : For CDE-7820R Model Only, Others : Common.

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
	R027	06S64995F93 47K ohm	○	R228	06S64995F69 4.7K ohm
	R028	06S64995F65 3.3K ohm	○	R229	06S64995F69 4.7K ohm
	R029	06S64995F65 3.3K ohm		R230	06S64995F69 4.7K ohm
	R030	06S70072F53 1K ohm 1/4W		R231	06S64995F69 4.7K ohm
	R031	06S64995F77 10K ohm	○	R232	06S64995F29 100 ohm
	R032	06S70072F41 330 ohm 1/4W	○	R233	06S64995F29 100 ohm
	R033	06S70072F53 1K ohm 1/4W		R234	06S64995F29 100 ohm
	R034	06S70072F71 5.6K ohm 1/4W		R235	06S64995F29 100 ohm
	R035	06S64995F77 10K ohm		R240	06S64995F61 2.2K ohm
	R036	06S64995F69 4.7K ohm		R241	06S64995F61 2.2K ohm
	R037	06S64995F79 12K ohm		R245	06S64995F53 1K ohm
	R038	06S64996F04 120K ohm		R246	06S64995F53 1K ohm
	R039	06S64995F13 22 ohm		R247	06S70072F46 510 ohm 1/4W
	R040	06S64996F02 100K ohm		R301	06S64995F37 220 ohm
	R041	06S64996F02 100K ohm		R302	06S64995F37 220 ohm
	R042	06S64995F77 10K ohm		R303	06S64995F37 220 ohm
	R043	06S64996F02 100K ohm		R304	06S64995F37 220 ohm
	R044	06S64995F81 15K ohm		R309	06S64995F57 1.5K ohm
	R045	06S64996F09 200K ohm		R310	06S64995F57 1.5K ohm
	R046	06S64996F14 330K ohm		R311	06S64995F57 1.5K ohm
	R047	06S64995F29 100 ohm		R312	06S64995F57 1.5K ohm
	R048	06S64995F61 2.2K ohm		R313	06S64995F53 1K ohm
	R049	06S64995F61 2.2K ohm		R314	06S64995F53 1K ohm
	R050	06S64995F83 18K ohm		R315	06S64995F53 1K ohm
	R051	06S64995F83 18K ohm		R316	06S64995F53 1K ohm
	R052	06S64995F75 8.2K ohm		R317	06S64995F57 1.5K ohm
	R053	06S64995F85 22K ohm		R318	06S64995F57 1.5K ohm
	R055	06S64995F53 1K ohm		R319	06S53331F40 2.2 ohm 1/8W
	R056	06S64995F77 10K ohm		R320	06S53331F40 2.2 ohm 1/8W
	R057	06S64995F77 10K ohm		R321	06S53331F40 2.2 ohm 1/8W
	R058	06S64995F79 12K ohm		R322	06S53331F40 2.2 ohm 1/8W
	R060	06S64995F53 1K ohm		R323	06S64995F57 1.5K ohm
	R201	06S64995F65 3.3K ohm		R324	06S64995F57 1.5K ohm
	R202	06S64995F65 3.3K ohm		R325	06S53331F40 2.2 ohm 1/8W
	R203	06S64995F63 2.7K ohm		R326	06S53331F40 2.2 ohm 1/8W
	R204	06S64995F63 2.7K ohm		R327	06S53331F40 2.2 ohm 1/8W
	R205	06S64995F91 39K ohm		R328	06S53331F40 2.2 ohm 1/8W
	R206	06S64995F53 1K ohm		R329	06S64995F77 10K ohm
	R207	06S64995F77 10K ohm		R330	06S64995F69 4.7K ohm
	R208	06S64995F77 10K ohm		R331	06S64995F69 4.7K ohm
	R209	06S64995F91 39K ohm		R332	06S64995F69 4.7K ohm
	R210	06S64995F91 39K ohm		R333	06S64995F69 4.7K ohm
	R211	06S64995F53 1K ohm		R602	06S64995F69 4.7K ohm
	R212	06S64995F53 1K ohm		R603	06S64995F93 47K ohm
○	R220	06S64995F29 100 ohm		R604	06S64995F53 1K ohm
○	R221	06S64995F29 100 ohm		R605	06S64995F53 1K ohm
○	R222	06S64995F29 100 ohm		R607	06S64995F53 1K ohm
○	R223	06S64995F29 100 ohm		R608	06S64995F53 1K ohm
○	R224	06S64995F85 22K ohm		R609	06S64995F53 1K ohm
○	R225	06S64995F85 22K ohm		R610	06S64995F53 1K ohm
	R226	06S64995F85 22K ohm		R611	06S64995F53 1K ohm
	R227	06S64995F85 22K ohm		R612	06S64995F53 1K ohm

Notes : ○ : For CDE-7822R Model Only, ● : For CDE-7820R Model Only, Others : Common.

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
○ R613	06S64995F77	10K ohm	○ R820	06S64995F85	22K ohm
● R614	06S64996F02	100K ohm	○ R821	06S64995F85	22K ohm
○ R616	06S64996F02	100K ohm	R823	06S64995F77	10K ohm
○ R617	06S64996F02	100K ohm	R824	06S70072F55	1.2K ohm 1/4W
● R618	06S64996F02	100K ohm	R825	06S70072F55	1.2K ohm 1/4W
○ R619	06S64996F02	100K ohm	R826	06S64995F69	4.7K ohm
○ R620	06S64995F61	2.2K ohm	R830	06S70072F77	10K ohm 1/4W
○ R622	06S64995F77	10K ohm	R831	06S64995F69	4.7K ohm
○ R623	06S64995F77	10K ohm	R832	06S64995F77	10K ohm
○ R625	06S70072F77	10K ohm 1/4W	R833	06S64996F02	100K ohm
○ R626	06S70072F77	10K ohm 1/4W	R834	06S70072F55	1.2K ohm 1/4W
○ R627	06S70072F77	10K ohm 1/4W	R835	06S70072F57	1.5K ohm 1/4W
○ R631	06S64995F53	1K ohm	R836	06S70072F57	1.5K ohm 1/4W
○ R635	06S64995F53	1K ohm	R837	06S64995F69	4.7K ohm
○ R636	06S64995F53	1K ohm	R855	06S70072F55	1.2K ohm 1/4W
○ R638	06S64995F53	1K ohm	Front P. C. Board		
○ R639	06S64995F53	1K ohm	IC		
○ R640	06S64996F18	470K ohm	IC401	51T55492W01	LC75850W
○ R642	06S64996F02	100K ohm	Transistors		
○ R644	06S64995F85	22K ohm	○ Q401	48T63461F04	CP., 2SC2411K
○ R646	06S64995F53	1K ohm	○ Q402	48T63461F04	CP., 2SC2411K
○ R647	06S64995F53	1K ohm	○ Q403	48T62967F03	CP., DTC124K
○ R648	06S64995F53	1K ohm	○ Q404	48T63461F04	CP., 2SC2411K
○ R649	06S64995F53	1K ohm	○ Q405	48T63461F04	CP., 2SC2411K
○ R650	06S64996F02	100K ohm	○ Q406	48T63461F04	CP., 2SC2411K
○ R702	06T15443W63	2.7K ohm	Diodes		
○ R703	06T15443W79	12K ohm	D401	48T64134F01	CP., DA204K
○ R704	06S64995F74	7.5K ohm	D402	48T64134F01	CP., DA204K
○ R705	06S64995F81	15K ohm	D403	48T64134F01	CP., DA204K
○ R706	06S64995F93	47K ohm	D404	48T64134F01	CP., DA204K
○ R707	06S70072F01	4.7 ohm 1/4W	○ D405	48T64134F01	CP., DA204K
○ R708	06S70072F01	4.7 ohm 1/4W	Switches		
○ R709	06S70072F45	470 ohm 1/4W	S401	40T55656W03	Tact, SKQMAJ (EJECT)
○ R710	06S70072F45	470 ohm 1/4W	S402	40T55656W03	Tact, SKQMAJ (M.S. · CD · FF / UP)
○ R714	06S70072F01	4.7 ohm 1/4W	S403	40T55656W03	Tact, SKQMAJ (SCAN / 3)
○ R801	06S70072F45	470 ohm 1/4W	S404	40T55656W03	Tact, SKQMAJ (6)
○ R802	06S64995F77	10K ohm	○ S405	40T55656W03	Tact, SKQMAJ (ILLUMI / 5)
○ R804	06S64996F10	220K ohm	● S405	40T55656W03	Tact, SKQMAJ (5)
○ R805	06S64995F77	10K ohm			
○ R806	06S64995F61	2.2K ohm			
○ R807	06S64995F77	10K ohm			
○ R809	06S70072F03	6.8 ohm 1/4W			
○ R810	06S70072F03	6.8 ohm 1/4W			
○ R811	06S70072F03	6.8 ohm 1/4W			
○ R812	06S64995F77	10K ohm			
○ R813	06S70072F61	2.2K ohm 1/4W			
○ R814	06S64995F77	10K ohm			
○ R815	06S64995F77	10K ohm			
○ R816	06S70072F57	1.5K ohm 1/4W			
○ R817	06S64995F77	10K ohm			
○ R818	06S70072F57	1.5K ohm 1/4W			
○ R819	06S70072F77	10K ohm 1/4W			

Notes : ○ : For CDE-7822R Model Only, ● : For CDE-7820R Model Only, Others : Common.

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
			Resistors (All resistors are chip 1/10W±5% unless otherwise noted.)		
○ S406	40T55656W03	Tact, SKQMAJ (RPT / 2)	R401	06S64995F77	10K ohm
○ S407	40T55656W03	Tact, SKQMAJ (4)	R402	06S64995F77	10K ohm
○ S408	40T75234W01	Tact, SKQNAC (DISC · PLAY / PAUSE)	R403	06S64995F77	10K ohm
○ S409	40T75234W01	Tact, SKQNAC (TUNER / BAND)	R404	06S64995F77	10K ohm
○ S410	40T55571W01	Tact, SKQAXX (UP)	R405	06S64995F77	10K ohm
● S411	40T75234W01	Tact, SKQNAC (UP)	○ R406	06S64995F75	8.2K ohm
● S412	40T55656W03	Tact, SKQMAJ (M.S. · CD · REW / DN)	R407	06S64995F71	5.6K ohm
○ S413	40T55656W03	Tact, SKQMAJ (M.I.X. / 1)	R408	06S64995F61	2.2K ohm
○ S414	40T75234W01	Tact, SKQNAC (PWR / INTLZ)	R409	06S70072F04	8.2 ohm 1/4W
○ S415	40T75234W01	Tact, SKQNAC (RDS)	R410	06S70072F48	620 ohm 1/4W
○ S416	40T55656W03	Tact, SKQMAJ (TUNE / A.ME)	○ R411	06S70072F12	20 ohm 1/4W
○ S417	40T55571W01	Tact, SKQAXX (DOWN)	R412	06S70072F48	620 ohm 1/4W
● S418	40T75234W01	Tact, SKQNAC (DOWN)	○ R413	06S70072F69	4.7K ohm 1/4W
○ S419	40T75234W01	Tact, SKQNAC (MODE / LOUD)	○ R415	06S70072F69	4.7K ohm 1/4W
○ S420	40T75234W01	Tact, SKQNAC (T.INFO / PTY)	○ R416	06S70072F61	2.2K ohm 1/4W
Lamps			○ R417	06S70072F63	2.7K ohm 1/4W
○ PL401	65T75231W01	9V-85mA	○ R419	06S70072F29	100 ohm 1/4W
○ PL402	65T75231W02	9V-85mA	○ R420	06S70072F29	100 ohm 1/4W
○ PL403	65T75233W02	6V-80mA	○ R421	06S70072F29	100 ohm 1/4W
○ PL404	65T75232W02	6V-80mA	○ R422	06S70072F29	100 ohm 1/4W
○ PL405	65T75233W02	6V-80mA	○ R424	06S70072F48	620 ohm 1/4W
○ PL406	65T75233W02	6V-80mA	○ R427	06S70072F55	1.2K ohm 1/4W
○ PL407	65T75233W01	6V-80mA	○ R428	06S70072F55	1.2K ohm 1/4W
○ PL408	65T75232W01	6V-80mA	● R428	06S70072F51	820 ohm 1/4W
○ PL409	65T75232W01	6V-80mA	R429	06S70072F29	100 ohm 1/4W
○ PL410	65T75233W01	6V-80mA	R430	06S70072F29	100 ohm 1/4W
○ PL411	65T75233W01	6V-80mA	R431	06S70072F29	100 ohm 1/4W
LED's			R432	06S70072F29	100 ohm 1/4W
○ LD401	48T75261W01	CP., SML-020PDTT (GRN / ORG)	R433	06S70072F48	620 ohm 1/4W
○ LD402	48T75261W01	CP., SML-020PDTT (GRN / ORG)	R434	06S70072F48	620 ohm 1/4W
● LD403	48T65477W03	CP., SML-010PTT (GRN)	R435	06S64995F57	1.5K ohm
● LD404	48T65477W03	CP., SML-010PTT (GRN)	R436	06S64995F61	2.2K ohm
○ LD405	48T75261W01	CP., SML-020PDTT (GRN / ORG)	R437	06S64995F65	3.3K ohm
○ LD406	48T65477W03	CP., SML-010PTT (GRN)	R438	06S64995F71	5.6K ohm
Capacitors			R439	06S64995F77	10K ohm
C401	08S82122F53	CP., 470pF	R440	06S64995F89	33K ohm
E401	23T25191W05	ELY., 10μF / 6.3V	R441	06S64995F57	1.5K ohm
C402	08S65128F78	CP., 0.022μF	R442	06S64995F61	2.2K ohm
			R443	06S64995F65	3.3K ohm
			R444	06S64995F71	5.6K ohm
			R445	06S64995F77	10K ohm
			R446	06S64995F57	1.5K ohm
			R447	06S64995F61	2.2K ohm
			R448	06S64995F65	3.3K ohm
			R449	06S64995F71	5.6K ohm
			R450	06S64995F77	10K ohm
			R451	06S64995F89	33K ohm
			R452	06S64995F53	1K ohm
			R453	06S64995F53	1K ohm
			R454	06S64995F53	1K ohm

Notes : ○ : For CDE-7822R Model Only, ● : For CDE-7820R Model Only, Others : Common.

Symbol No.	Part No.	Description
○ R455	06S64996F04	120K ohm
○ R456	06S70072F69	4.7K ohm 1/4W
○ R457	06S70072F55	1.2K ohm 1/4W
○ R458	06S70072F55	1.2K ohm 1/4W
● R458	06S70072F51	820 ohm 1/4W
R460	06S64995F53	1K ohm
DP-Main P. C. Board		
IC's		
IC1101	51T65304W03	TC9284AF
IC1102	51T25984W01	TA8191F
IC1103	51T65291W01	BA6790FP
IC1201	51T65210W01	TA2009F
IC1202	51T11054W02	NJM78L05UA
IC1507	51T65209W01	BA6287F
Transistors		
Q1102	48T63420F01	CP., 2SA1037K
Q1103	48T80611F01	CP., 2SB1132
Q1112	48T94606F05	CP., DTC114TU
Q1113	48T94606F05	CP., DTC114TU
Q1115	48T94606F53	CP., DTA124EU
Q1116	48T94606F03	CP., DTC124EU
Q1501	48T80612F01	CP., 2SB1188
Q1502	48T94606F03	CP., DTC124EU
Q1503	48T81552F01	CP., 2SD1383K
Q1508	48T80611F01	CP., 2SB1132
Crystal		
X1101	91T45433W92	CP., 16.934MHz
Photo Transistors		
PT1501	48T84017F15	PS1101W
PT1502	48T84017F15	PS1101W
PT1503	48T84017F15	PS1101W
PT1504	48T84017F15	PS1101W
PT1505	48T84017F15	PS1101W

Symbol No.	Part No.	Description
Diodes		
D1501	48T63462F01	CP., DAN202K
D1502	48T15512W01	CP., DSM10
D1503	48T15512W01	CP., DSM10
D1504	48T81063F01	CP., MA159
Capacitors		
C1101	08S45676W73	CP., 0.01μF
E1101	23T25191W42	CP., ELY. 22μF / 6.3V
E1102	23T25191W05	CP., ELY. 10μF / 6.3V
E1103	23T25191W05	CP., ELY. 10μF / 6.3V
C1105	08S45676W67	CP., 3300pF
E1105	23T25191W12	CP., ELY. 4.7μF / 16V
C1106	08S45676W67	CP., 3300pF
C1107	08S45677W36	CP., 100pF
E1107	23S55311W23	CP., TAN. 10μF / 10V
C1108	08S45676W73	CP., 0.01μF
E1108	23S55311W22	CP., TAN. 4.7μF / 10V
C1109	08S45676W73	CP., 0.01μF
E1109	23S55311W22	CP., TAN. 4.7μF / 10V
C1110	08S45676W73	CP., 0.01μF
E1110	23S55311W23	CP., TAN. 10μF / 10V
C1111	08S45676W60	CP., 1000pF
E1111	23S55311W23	CP., TAN. 10μF / 10V
C1113	08T15399W01	CP., 0.022μF
E1113	23T25191W12	CP., ELY. 4.7μF / 16V
C1114	08S45676W68	CP., 3900pF
C1115	08T35374W02	CP., 0.056μF
C1116	08S45677W44	CP., 220pF
C1117	08S45676W66	CP., 2700pF
E1117	23T25191W28	CP., ELY. 0.47μF / 50V
C1118	08T15399W03	CP., 0.047μF
C1119	08S45677W30	CP., 56pF
C1120	08S45676W73	CP., 0.01μF
E1120	23T25191W05	CP., ELY. 10μF / 6.3V
C1121	08S45677W14	CP., 12pF
E1121	23T25191W05	CP., ELY. 10μF / 6.3V
C1122	08S45676W73	CP., 0.01μF
E1122	23T25191W42	CP., ELY. 22μF / 6.3V
C1123	08T15399W03	CP., 0.047μF
C1124	08S45677W05	CP., 3pF
C1126	08T35374W01	CP., 0.1μF
E1127	23T25191W30	CP., ELY. 1μF / 50V
E1128	23S55311W23	CP., TAN. 10μF / 10V
C1129	08S45676W73	CP., 0.01μF
E1129	23T25191W42	CP., ELY. 22μF / 6.3V
C1130	08S45676W69	CP., 4700pF
E1130	23T25191W42	CP., ELY. 22μF / 6.3V
C1140	08S45676W69	CP., 4700pF

Notes : ○ : For CDE-7822R Model Only, ● : For CDE-7820R Model Only, Others : Common.

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
C1142	08S45676W65	CP., 2200pF	R1124	06S45674W87	18K ohm
C1150	08S45676W78	CP., 0.047μF	R1125	06S45674W97	47K ohm
C1151	08S45676W78	CP., 0.047μF	R1126	06S45674W75	5.6K ohm
C1153	08S45676W78	CP., 0.047μF	R1127	06S45675W08	120K ohm
C1155	08S45676W78	CP., 0.047μF	R1128	06S45675W06	100K ohm
C1156	08S45677W12	CP., 10pF	R1129	06S45674W85	15K ohm
C1157	08S45677W12	CP., 10pF	R1130	06S45674W89	22K ohm
C1191	08T15399W03	CP., 0.047μF	R1131	06S45674W81	10K ohm
C1201	08S45676W71	CP., 6800pF	R1132	06S45674W81	10K ohm
E1201	23T25191W41	CP., ELY. 10μF / 16V	R1133	06S45674W81	10K ohm
C1202	08S45676W71	CP., 6800pF	R1134	06S45675W24	560K ohm
E1202	23T25191W41	CP., ELY. 10μF / 16V	R1135	06S45675W06	100K ohm
C1203	08S45677W36	CP., 100pF	R1136	06S45694W65	2.2K ohm
E1203	23T25191W42	CP., ELY. 22μF / 6.3V	R1137	06S45674W81	10K ohm
C1204	08S45677W36	CP., 100pF	R1138	06S45674W85	15K ohm
E1204	23T25191W42	CP., ELY. 22μF / 6.3V	R1139	06S45674W73	4.7K ohm
C1205	08S45677W36	CP., 100pF	R1140	06S45674W73	4.7K ohm
E1205	23T25191W41	CP., ELY. 10μF / 16V	R1144	06S45674W57	1K ohm
C1206	08S45677W36	CP., 100pF	R1145	06S45674W49	470 ohm
E1206	23T25191W42	CP., ELY. 22μF / 6.3V	R1146	06S45674W75	5.6K ohm
C1501	08S45676W73	CP., 0.01μF	R1147	06S45675W02	68K ohm
E1501	23T25191W05	CP., ELY. 10μF / 6.3V	R1150	06S45674W33	100 ohm
C1502	08S45676W73	CP., 0.01μF	R1151	06S45674W33	100 ohm
C1503	08S65128F76	CP., 0.1μF	R1167	06S45675W09	130K ohm
E1511	23T25191W05	CP., ELY. 10μF / 6.3V	R1179	06S45674W67	2.7K ohm
Resistors (All resistors are chip 1/16W±5% unless otherwise noted.)			R1180	06S45674W81	10K ohm
R1102	06S45675W22	470K ohm	R1181	06S45674W89	22K ohm
R1103	06S45674W43	270 ohm	R1185	06S45674W87	18K ohm
R1105	06S45674W91	27K ohm	R1188	06S45674W69	3.3K ohm
R1106	06S45674W95	39K ohm	R1189	06S45675W22	470K ohm
R1107	06S45675W14	220K ohm	R1190	06S45674W97	47K ohm
R1108	06S45675W06	100K ohm	R1191	06S45674W73	4.7K ohm
R1109	06S45674W87	18K ohm	R1196	06S45674W81	10K ohm
R1110	06S45674W61	1.5K ohm	R1221	06S70072F15	27 ohm 1/4W
R1111	06S45674W87	18K ohm	R1223	06S45674W81	10K ohm
R1112	06S45674W95	39K ohm	R1224	06S45674W81	10K ohm
R1113	06S45674W65	2.2K ohm	R1225	06S45674W81	10K ohm
R1114	06S45675W06	100K ohm	R1226	06S45674W81	10K ohm
R1115	06S45674W81	10K ohm	R1227	06S45674W25	47 ohm
R1116	06S45674W97	47K ohm	R1228	06S45674W25	47 ohm
R1117	06S45675W34	2.2M ohm	R1501	06S45675W06	100K ohm
R1118	06S45674W93	33K ohm	R1502	06S45675W06	100K ohm
R1119	06S45674W57	1K ohm	R1503	06S45675W06	100K ohm
R1120	06S45674W81	10K ohm	R1504	06S45675W06	100K ohm
R1121	06S45674W91	27K ohm	R1505	06S45675W06	100K ohm
R1122	06S45674W67	2.7K ohm	R1506	06S45674W97	47K ohm
R1123	06S45675W16	270K ohm	R1507	06S45674W97	47K ohm
			R1508	06S45675W22	470K ohm
			R1509	06S45674W81	10K ohm
			R1510	06S45674W81	10K ohm
			R1511	06S70072F53	1K ohm 1/4W
			R1512	06S45674W95	39K ohm

Notes : ○ : For CDE-7822R Model Only, ● : For CDE-7820R Model Only, Others : Common.

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
R1513 VR1101 VR1102 VR1103	06S45674W95 18T45357W20 18T45357W14 18T45357W10	39K ohm Variable, CP. 150K ohm Variable, CP. 15K ohm Variable, CP. 3.3K ohm			
LED P. C. Board					
LED's					
LD1501 LD1502 LD1503 LD1504 LD1505	48T16057W02 48T16057W02 48T16057W02 48T16057W02 48T16057W02	AN501-B1 (RED) AN501-B1 (RED) AN501-B1 (RED) AN501-B1 (RED) AN501-B1 (RED)			
Miscellaneous					
○ ET201	09T55211W01	Antenna Receptacle			
● ET201	01T75188W01	F-Out / Sub-W. & Rear Out RCA / Remote Turn-On / Audio Interrupt In Connector			
● ET201	01T75188W04	R-Out / Sub-W. RCA / Remote Turn-On Connector			
ET801	01T75292W02	Assy., ISO Connector (OPEN / SPEAKER / POWER)			
○ CB401	09T75038W14	Connector (16P)			
● CB401	09T75038W12	Connector (16P)			
CH401	09T75039W16	Connector (16P)			
HD1201	88T55261W01	Pick Up Unit			
LCD401	65T75147W01	LCD Display			
M1301	01V53900W77	Assy., Loading Motor (3.5V-110mA)			
M1302	59T55262W01	Motor, Spindle (3V-120mA)			
M1303	01V54100W69	Assy., Sled Motor (3.5V-110mA)			
S1301	40T71025F03	Switch, Detector (CAM END)			
S1302	40T71025F03	Switch, Detector (LIMIT)			
SD1301	01T55277W01	Assy., Solenoid			

Notes : ○ : For CDE-7822R Model Only, ● : For CDE-7820R Model Only, Others : Common.

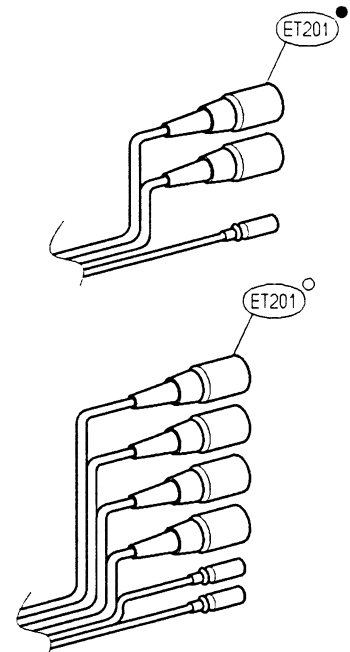
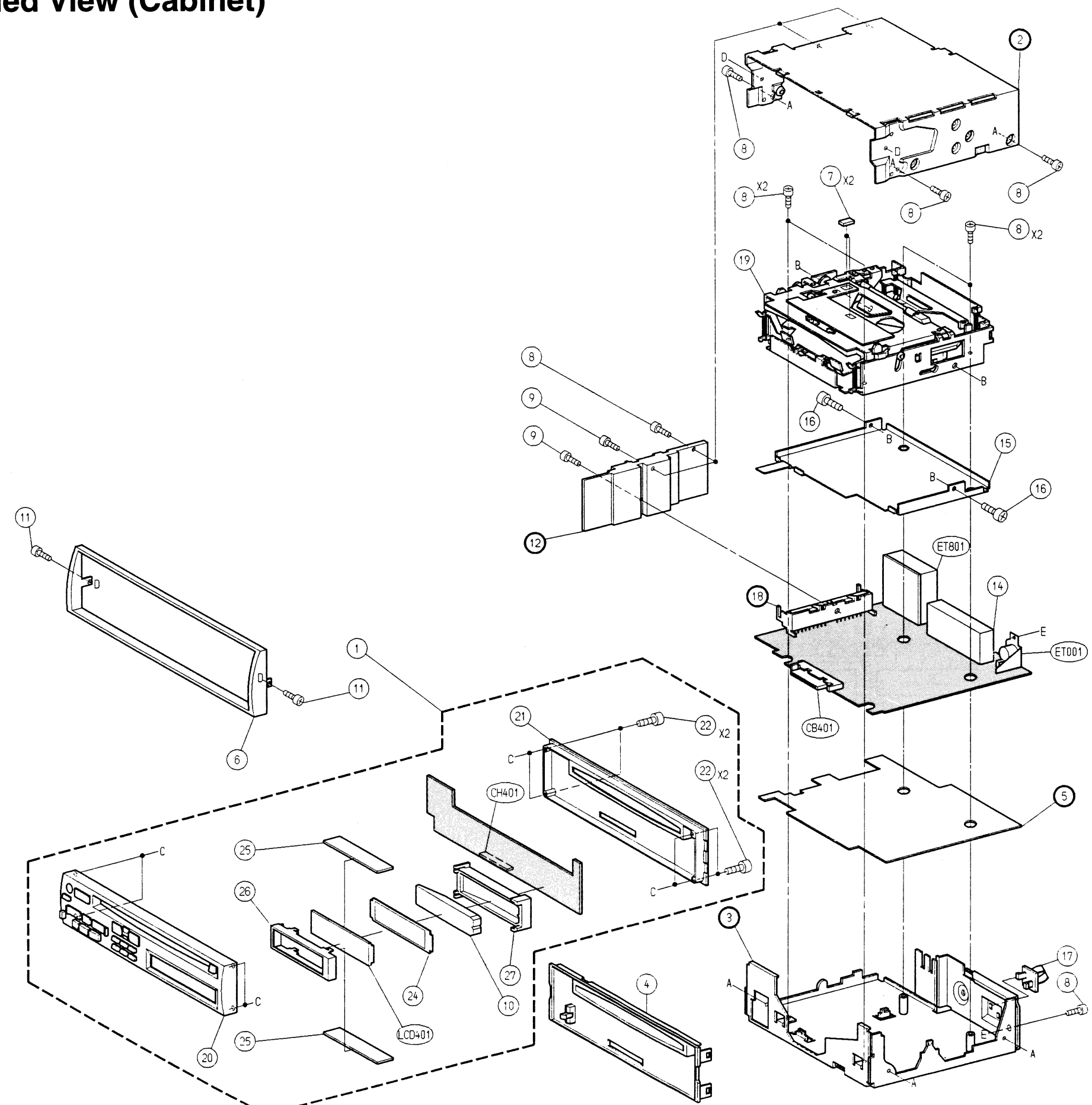
Cabinet Assembly Parts List

Note : No parts number on parts list are not supplied.

Symbol No.	Index	Part No.	Description	Symbol No.	Index	Part No.	Description
○	1	3-C	01V71900W79				
●	1	3-C	01V73100W31				
	4	5-D	13C70398W01				
	6	4-B	33C70276W01				
	7	2-E	75S62361F43				
	8		03S44205G29				
	9		03S38013W05				
	10	5-C	61A70307W01				
	11		03S38013W13				
	14	3-F	77B60578W01				
			FM/MW/LW Tuner Unit, MB4R3010 (FE001)				
	15	3-F	15B61301W01				
	16		03S38013W20				
	17	5-F	15A70387W01				
	19	2-E	81D60580W02				
			CD Deck Mechanism, DP24H02A				
○	20	5-B	13D70546W01				
●	20	5-B	13D70546W05				
	21	4-D	13D70403W01				
	22	4-D	03S68555F39				
	24	5-C	26A70309W01				
	25		75T75253W01				
			Rubber, Electric				
	26	4-B	15B70310W01				
	27	5-C	15B70308W01				
			Cover, LCD				
			Case, LCD				

Notes : ○ : For CDE-7822R Model Only, ● : For CDE-7820R Model Only, Others : Common.

Exploded View (Cabinet)

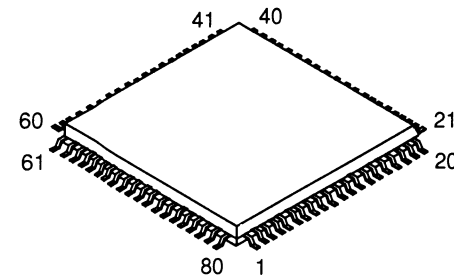


Notes : ○ : For CDE-7822R Model Only,
● : For CDE-7820R Model Only,
Others : Common.

Semi - Conductor Lead Identifications

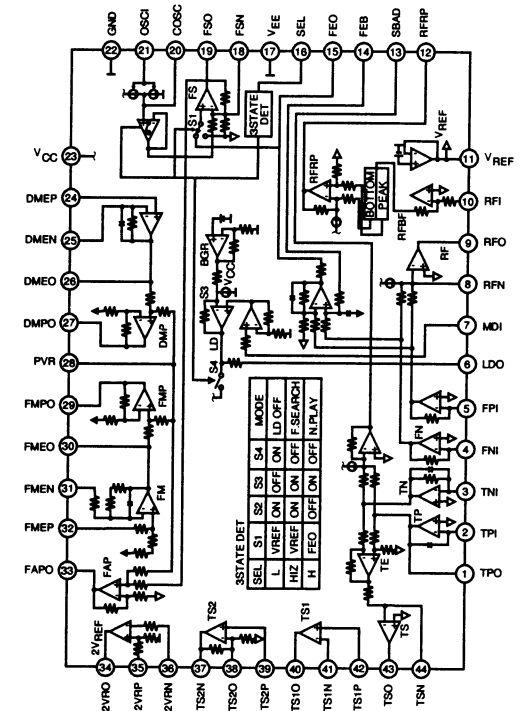
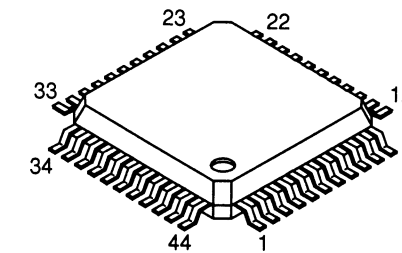
Note : For the parts not mentioned, refer to the Schematic Diagram.

75099W03 : IC601

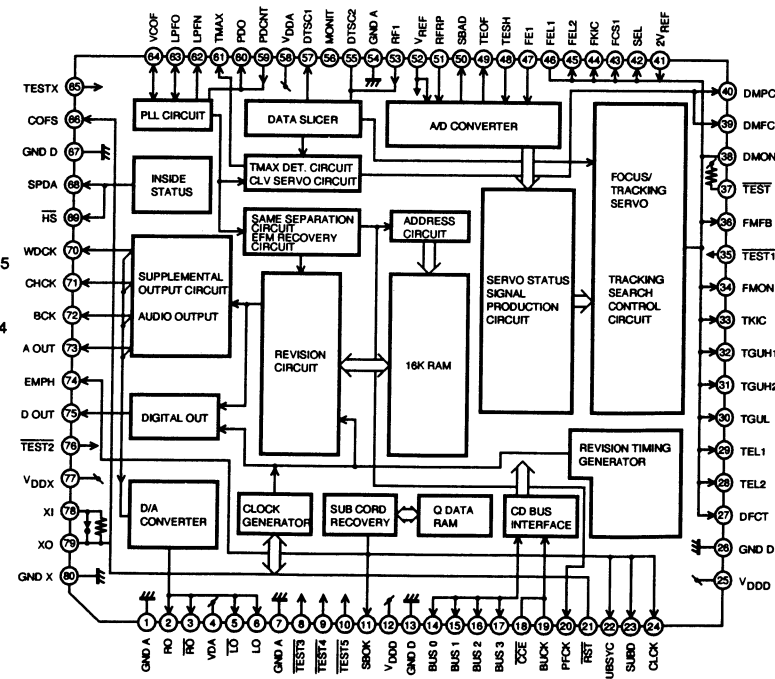
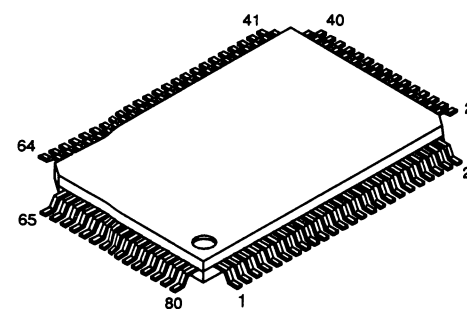


PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O
1	KEY-3	I	21	NC	—	41	CCE	O	61	GND	—
2	KEY-2	I	22	NC	—	42	LOCK	I	62	A-HOLD	I
3	KEY-1	I	23	L-CONT	O	43	A-MUTE	O	63	B-HOLD	I
4	GND	—	24	SOL	O	44	RDS-DATA	I	64	RDS-CLK	I
5	INTLZ	I	25	LOAD-FWD	O	45	NC	—	65	VOL-CLK	O
6	22R/20R	I	26	LOAD-BWD	O	46	ALM	O	66	VOL-DATA	O
7	AVREF	—	27	PH-E	I	47	IF-MUTE	O	67	NFP-OUT1	O
8	PULL-UP	—	28	PH-D	I	48	LPF-SW	O	68	VDD	—
9	NC	—	29	PH-C	I	49	NC	—	69	X2	O
10	AMBER	O	30	PH-B	I	50	SD	I	70	X1	I
11	LCD-INH	O	31	PH-A	I	51	ST	I	71	GND	—
12	LCD-DATA	O	32	V-CONT	O	52	PLL-CE	O	72	NC	—
13	LCD-CLK	O	33	GND	—	53	PLL-CLK	O	73	GND	—
14	LCD-CE	O	34	LIMIT-SW	I	54	PLL-D-I	I	74	VDD	—
15	NC	—	35	CAM-END	I	55	PLL-D-O	O	75	VDD	—
16	NC	—	36	BUS0	I/O	56	NFP-OUT2	O	76	S-METER	I
17	NC	—	37	BUS1	I/O	57	PWR-IC	O	77	M/P	I
18	PS-OFF	I	38	BUS2	I/O	58	OUT-REM	O	78	ADJON	I
19	POW-ON	O	39	BUS3	I/O	59	IN-INT	I	79	T-SENS	I
20	NC	—	40	BUCK	O	60	RESET	I	80	NOSE	I

TA8191F : IC1102 (DP24H02A)



TC9284AF : IC1101 (DP24H02A)



Notes : ○ : For CDE-7822R Model only, ● : For CDE-7820R Model only, Others : Common

Schematic Diagram (1/4)

1

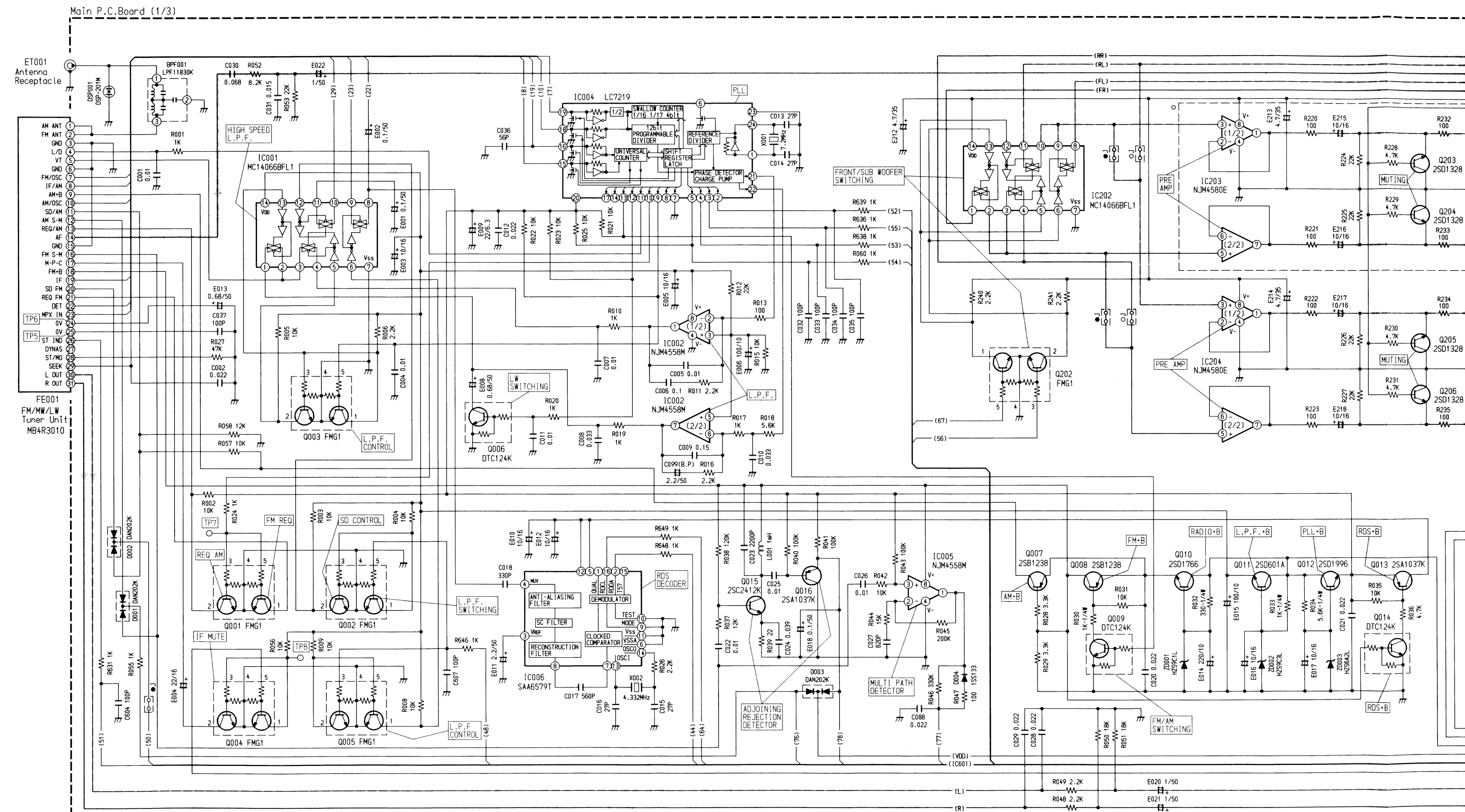
IC	IC001			IC006			IC004			IC002			IC005			IC202			IC203 IC204			Q203 Q204		
Transistor (Q)	Q001 Q004			Q003 Q002 Q005			Q006			Q015 Q016			Q007 Q008 Q009			Q010 Q011 Q012			Q013 Q014			Q205 Q206		

2

3

4

5



A

B - 33 -

C

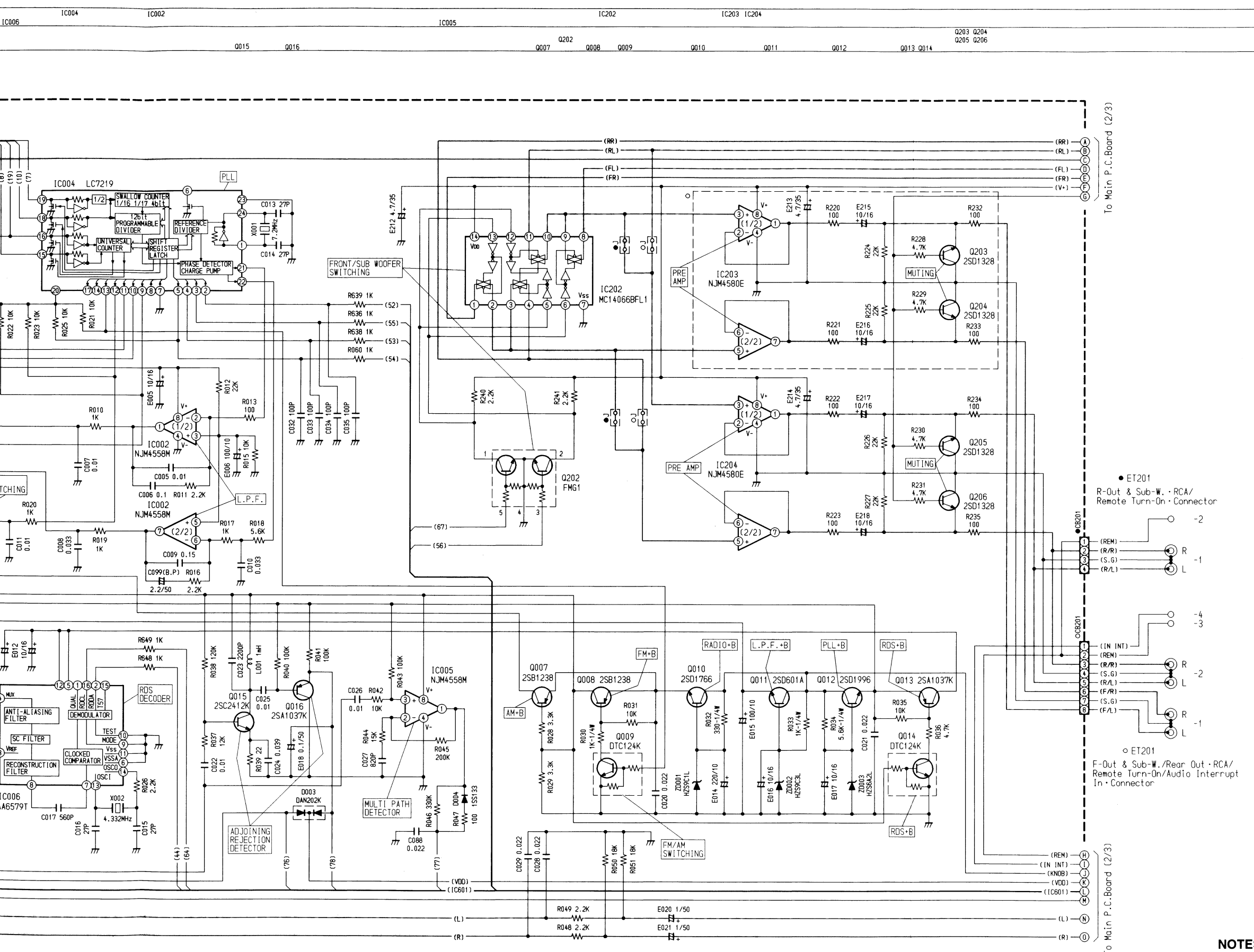
D

E

F - 34 -

G

H



IC001	IC002	IC004	IC005
1 8.32V	1 4.15V	1 2.3V	1 4.94V
2 4.15V	2 2.85V	2 PS	2 4.95V
3 4.15V	3 2.84V	3 PS	3 4.9V
4 4.15V	4 0V	4 PS	4 0V
5 9.07V	5 2.84V	5 PS	5 NC
6 9.07V	6 2.85V	6 NC	6 PS
7 0V	7 8.6V	7 0V	7 NC
8 2.46V	8 9.09V	8 0V	8 5.02V
9 2.47V		9 3.65V	9 2.84V
10 2.11V		10 4.09V	10 2.84V
11 2.11V		11 0V	11 2.84V
12 9.07V		12 0V	12 2.59V
13 0V			
14 9.07V			

IC006	IC202	IC203	IC204
1 NC	1 4.48V	1 4.48V	1 4.48V
2 PS	2 4.48V	2 4.48V	2 4.48V
3 2.47V	3 4.48V	3 4.48V	3 4.48V
4 2.4V	4 4.48V	4 4.48V	4 0V
5 4.93V	5 2.11V	5 0V	5 4.48V
6 0V	6 2.72V	6 8.88V	6 8.88V
7 2.45V	7 0V	7 0V	7 4.48V
8 2.5V	8 PS		8 8.88V

Q006	E	C	B	Q014	E	C	B
Q006	0V	0.9V	0V	Q014	0V	0V	8.99V
Q007	9.02V	8.95V	8.3V	Q015	0.3V	8.62V	0.97V
Q008	9.02V	8.96V	8.32V	Q016	4.92V	0V	4.92V
Q009	0V	3.61V	0V	Q203	0.03V	0.01V	0.72V
Q010	9.02V	14.08V	9.52V	Q204	0.03V	0.01V	0.72V
Q011	9.08V	14.08V	9.71V	Q205	0.03V	0.01V	0.72V
Q012	4.96V	14.08V	5.51V	Q206	0.03V	0.01V	0.72V
Q013	4.96V	4.93V	4.28V				

	1	2	3	4	5
Q001	0V	0V	4.53V	0V	4.53V
Q002	0V	9.08V	0V	0V	4.82V
Q003	0V	9.07V	0V	0V	3.64V
Q004	6.44V	0V	6.44V	0V	0V
Q005	9.07V	0V	4.82V	0V	0V
Q202	8.88V	8.88V	5.23V	0V	5.23V

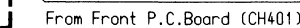
[Measuring Conditions]

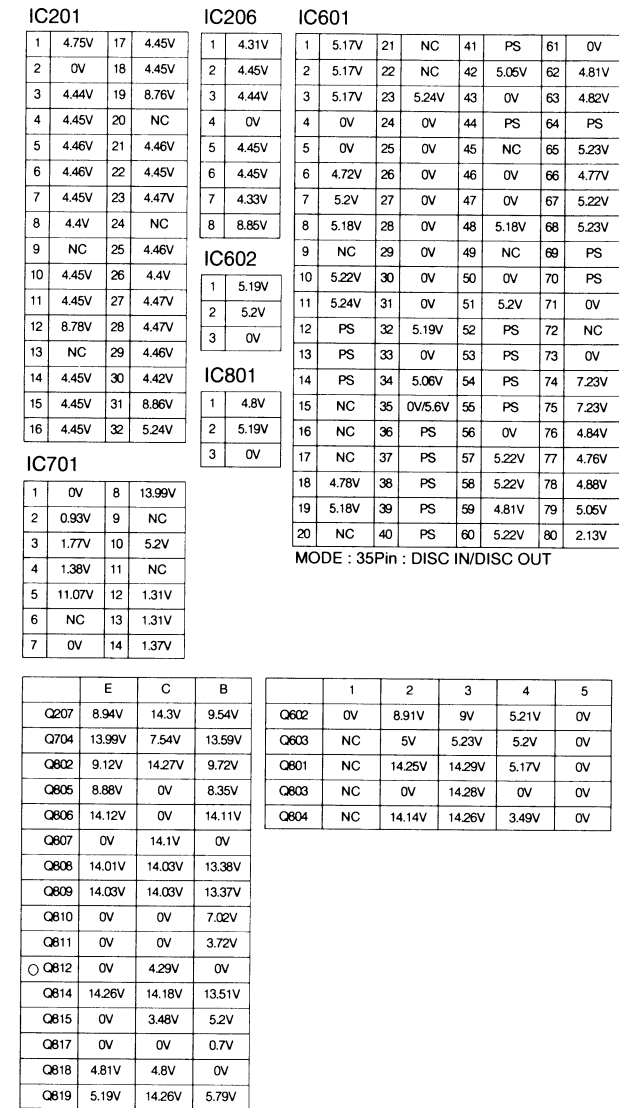
- Power Supply Voltage : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions : CD : Be Playing back the 2nd. Music of the Test CD (YEDS-18)
- FM : 98.1MHz
- MW : 999kHz
- LW : 216kHz

Notes : ○ : For CDE-7822R Model Only,
● : For CDE-7820R Model Only,
Others : Common.

NOTES:
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

5

Main P.C.Board (2/3)

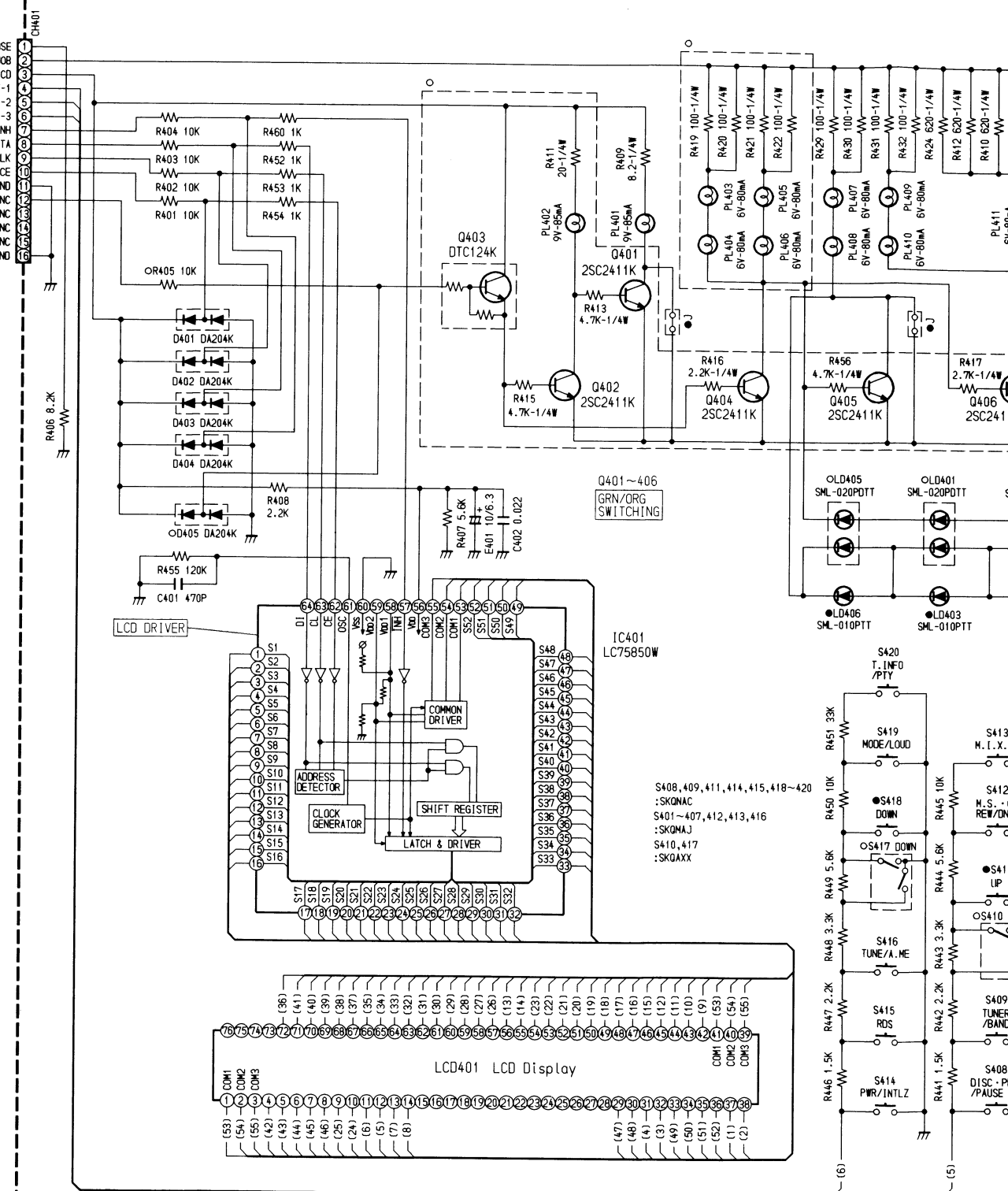


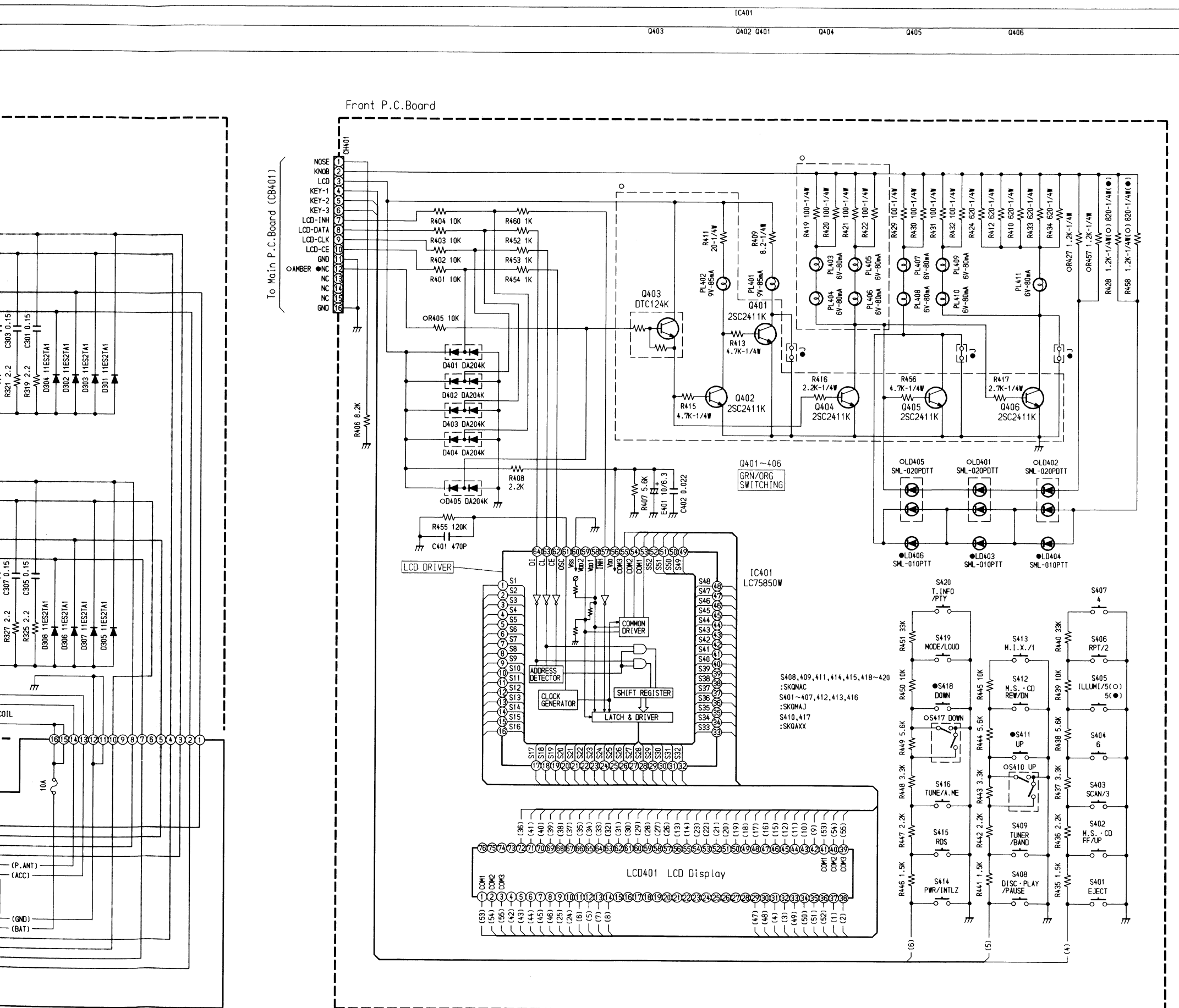
- Power Supply Voltage : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions : CD : Be Playing back the 2nd.
Music of the Test CD (YEDS-18)
FM : 98.1MHz
MW : 999kHz
LW : 216kHz

1. All resistance values are in ohms. $K = 1,000$
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

5

Н





IC301, IC302

1	4.99V	10	14.27
2	4.92V	11	PS
3	4.99V	12	PS
4	3.51V	13	OV
5	0V	14	OV
6	4.99V	15	PS
7	4.99V	16	PS
8	4.99V	17	14.27
9	14.27V		

	E	C	B
Q301	0.03V	0.01V	0.72V
Q302	0.03V	0.01V	0.72V
Q303	0.03V	0.01V	0.72V
Q304	0.03V	0.01V	0.72V
○ Q401	0V	9.04V	0.27V
○ Q402	0V	0.27V	0.79V
○ Q403	3.4V	9.15V	4.74V
○ Q404	0V	0.3V	0.81V
○ Q405	0V	13.67V	0.32V
○ Q406	0V	13.67V	0.33V

[Measuring Conditions]

- Power Supply Voltage : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions : CD : Be Playing back the 2nd.
Music of the Test CD (YEDS-18)
FM : 98.1MHz
MW: 999kHz
LW : 216kHz

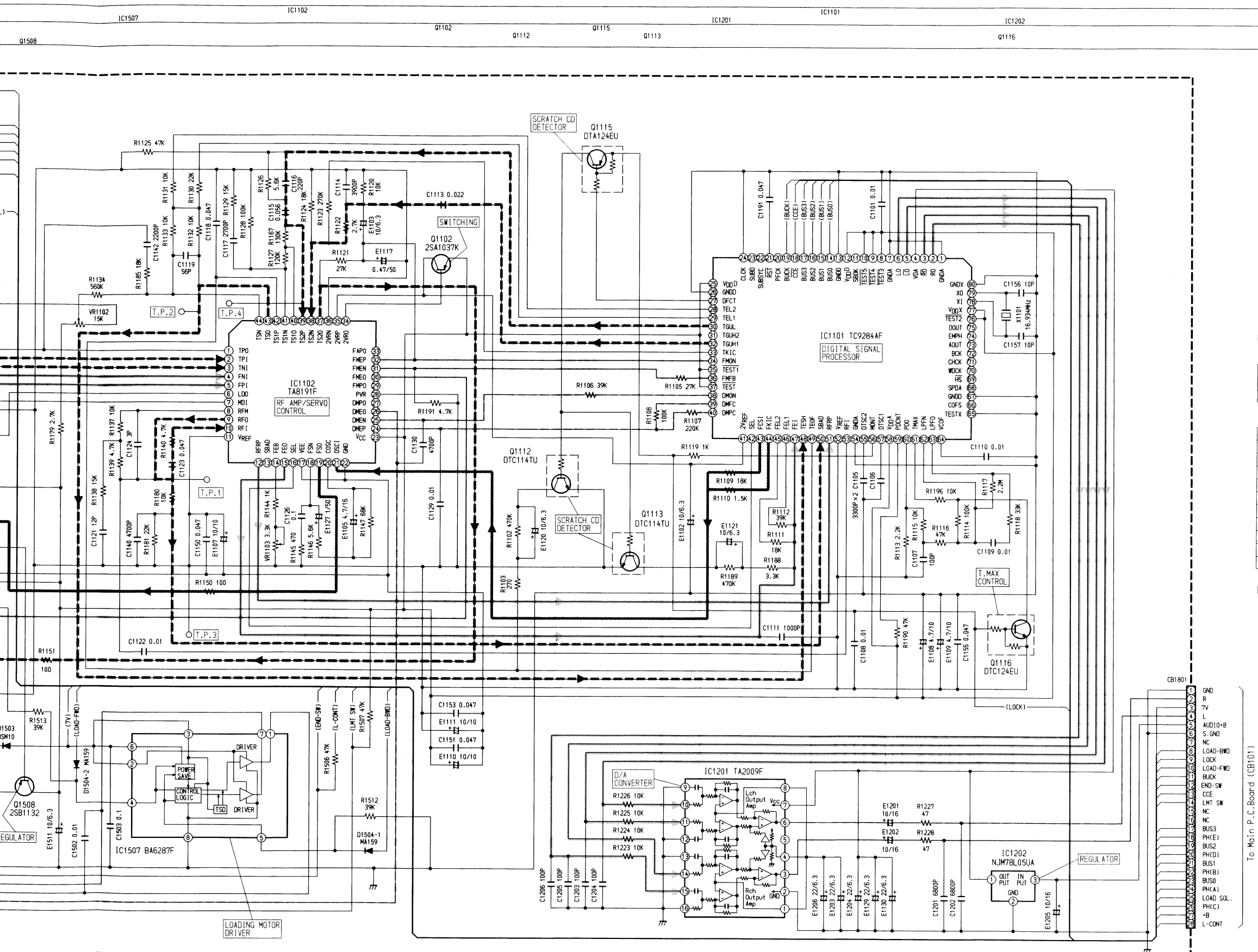
Notes : ○ : For CDE-7822R Model Only,
● : For CDE-7820R Model Only,
Others : Common.

NOTES:

1. All resistance values are in ohms. $K = 1,000$
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

5

H



IC1101

1	0V	21	5V	41	4.3V	61	2.2V
2	2.4V	22	PS	42	5V	62	2.2V
3	2.6V	23	PS	43	2.6V	63	2.2V
4	5V	24	0V	44	2.6V	64	2.1V
5	2.6V	25	5V	45	2.2V	65	0V
6	2.4V	26	0V	46	2.2V	66	PS
7	0V	27	5V	47	2.2V	67	0V
8	5V	28	2.2V	48	2.2V	68	0.1V
9	5V	29	2.2V	49	2.2V	69	5V
10	5V	30	2.2V	50	2.5V	70	PS
11	PS	31	0V	51	2.4V	71	PS
12	5V	32	2.2V	52	2.2V	72	PS
13	0V	33	2.2V	53	PS	73	PS
14	PS	34	2.2V	54	0V	74	0.1V
15	PS	35	5V	55	2.6V	75	0.1V
16	PS	36	2.2V	56	5V	76	5V
17	PS	37	5V	57	2.6V	77	5V
18	PS	38	2.2V	58	5V	78	PS
19	PS	39	PS	59	5V	79	PS
20	PS	40	PS	60	PS	80	0V

IC1102

1	1.7V	23	5V
2	2V	24	PS
3	2V	25	2.1V
4	2V	26	PS
5	2V	27	PS
6	3.9V	28	2.1V
7	0.1V	29	2.1V
8	2.1V	30	2V
9	PS	31	2V
10	PS	32	2.1V
11	2.1V	33	PS
12	PS	34	4.4V
13	2.7V	35	4.3V
14	2V	36	2.1V
15	PS	37	PS
16	4.9V	38	2V
17	0V	39	2V
18	PS	40	PS
19	PS	41	2V
20	PS	42	2.1V
21	2.4V	43	2.1V
22	0V	44	2.1V

IC1103

1	2.8V	15	5.8V
2	3V	16	2.1V
3	2.2V	17	3.1V
4	2.2V	18	2.6V
5	5.6V	19	2V
6	5.1V	20	2.2V
7	6.3V	21	6.2V
8	0V	22	6.2V
9	2.2V	23	2.1V
10	2.4V	24	2.2V
11	3.2V	25	2.1V
12	2.6V	26	2.7V
13	0V	27	3V
14	5.8V	28	0V

IC1201

1	2.5V	9	0V
2	0V	10	2.4V
3	2.5V	11	2.6V
4	2.5V	12	0V
5	NC	13	0V
6	2.5V	14	2.6V
7	5V	15	2.4V
8	2.5V	16	0V

IC1202

1	9V
2	0V
3	5V

IC1507

1	0V	5	0V
2	0V	6	7.1V
3	7.1V	7	0V
4	0V	8	0V

	E	C	B
Q1102	5V	4.5V	4.3V
Q1103	4.6V	4V	1.8V
Q1112	2.2V	0V	2.2V
Q1113	2.2V	0V	2.2V
Q1115	5V	5V	0V
Q1116	2.1V	5V	2.1V
Q1501	14V	14V	0V
Q1502	0V	0V	14V
Q1503	0V	0V	0V
Q1508	6.3V	5.6V	5.1V

[Measuring Conditions]

- Power Supply Voltage : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions : CD : Be Playing back the 2nd.
Music of the Test CD (YEDS-18)
FM : 98.1MHz
MW : 999kHz
LW : 216kHz

To Main P.C. Board (CB101)

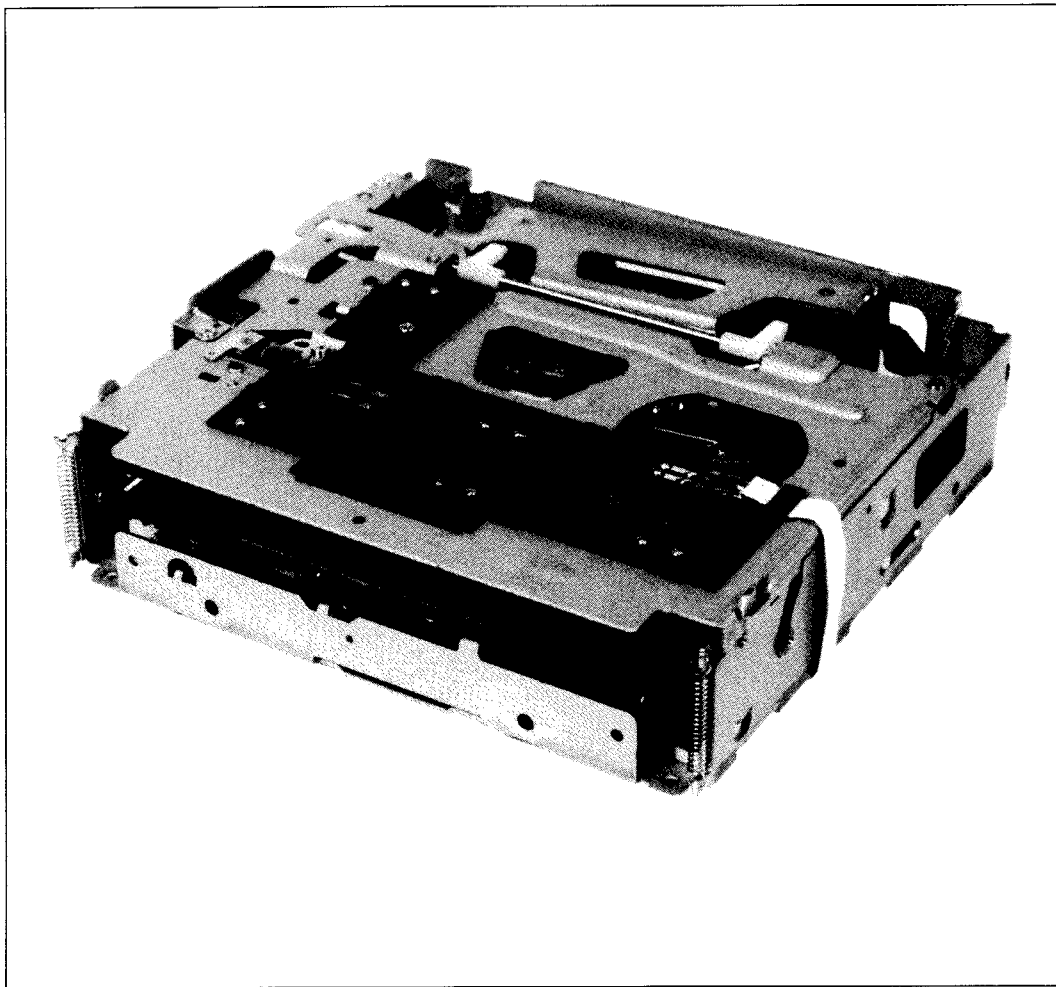
R-ch Signal Line
L-ch Signal Line
CD Signal Line (Digital)
Focus Servo Signal Line
Tracking Servo Signal Line
Sled Servo Signal Line
Spindle Servo Signal Line

NOTES:

- All resistance values are in ohms. K = 1,000
- All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

////ALPINE[®] SERVICE MANUAL

CD Player Mechanism



DP-H SERIES

Contents

Mechanism Operation 3 to 19

Timing Chart 20 to 24

Component disassembly and assembly notes 25 to 29

Schematic Diagram 31 to 33

Exploded View (CD Mechanism) 34 to 35

CD Mechanism Assembly Parts List 36

Mechanism Operation

<DP24H010 three side diagrams>

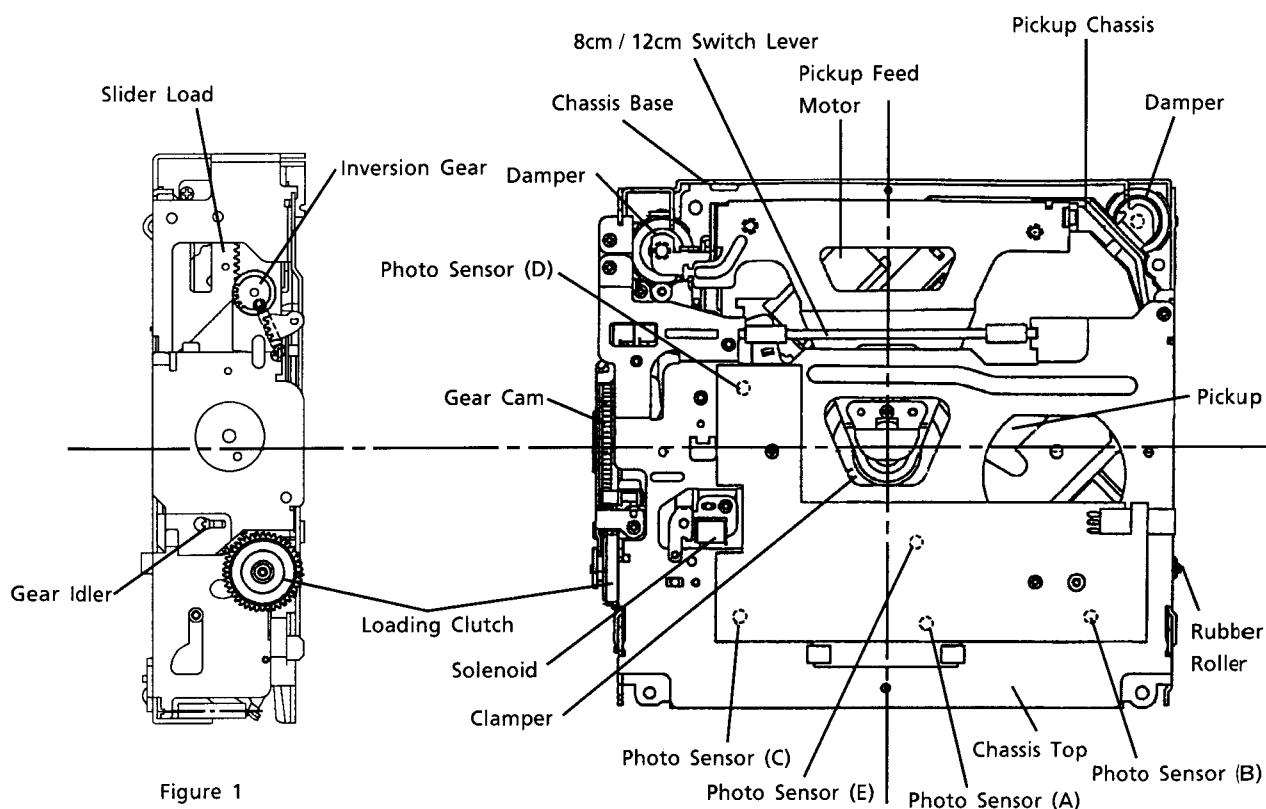


Figure 1

Figure 2

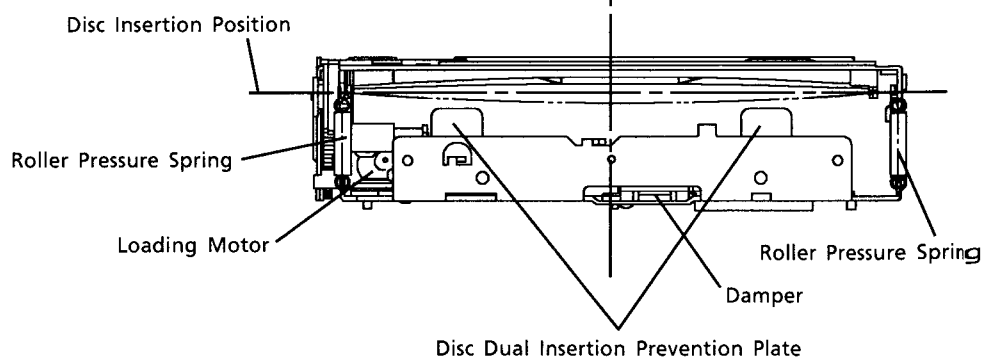


Figure 3

<DP24H010 Photo Sensor location diagram>

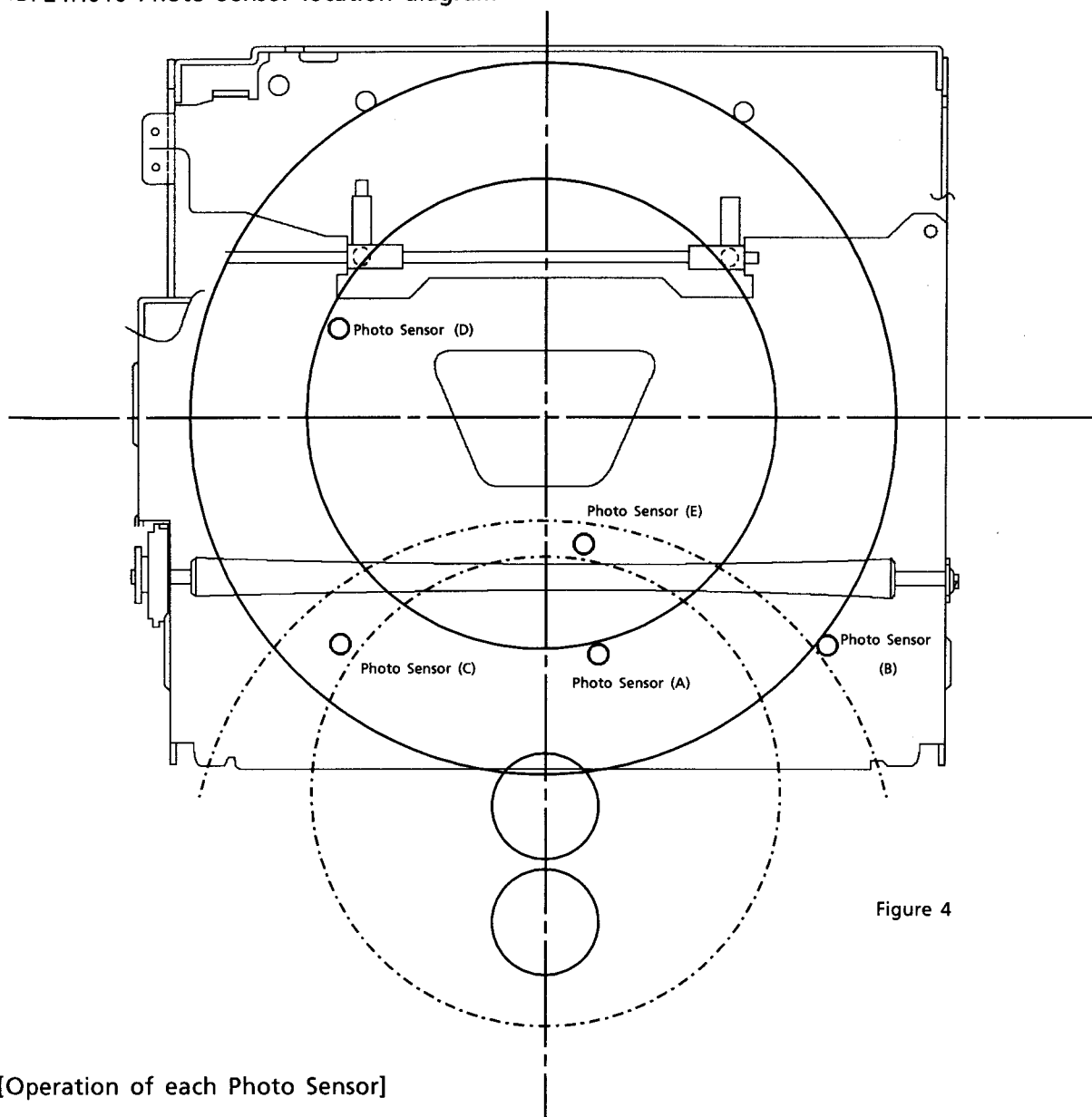


Figure 4

[Operation of each Photo Sensor]

- | | |
|---------------------------|--|
| 1. Photo Sensor (A) | ① Detects insertion of a 8cm Disc or 12cm Disc.
② Detects Loading end position of the 8cm Disc. |
| 2. Photo Sensor (B) | ① Identifies either 8cm Disc or 12cm Disc by working with the Photo Sensor (C).
② Detects Loading end position of the 12cm Disc.
③ Detects eject position of the 12cm Disc.
④ Detects a reloading of the 12cm Disc. |
| 3. Photo Sensor (C) | ① Detects insertion of the 8cm Disc.
② Detects eject position of the 8cm Disc.
③ Identifies either 8cm Disc or 12cm Disc by working with the Photo Sensor (B). |
| 4. Photo Sensor (D) | ① Detects loading end of the 8cm Disc.
② Detects that the 12cm Disc reaches the position at which it touches the stopper pin. |
| 5. Photo Sensor (E) | ① Detects reloading of the 8cm Disc. |

Function	Sequence	Operation	Illustration
12cm Disc pull-in operation	①	When the disc reaches position ①, the Photo Sensor (A) is interrupted and the disc insertion is detected. The Loading Motor runs in forward direction. As the disc moves further, it is pulled in by the Rubber Roller.	Figure 5
	②	When the disc reaches position ②, both the Photo Sensors (B) and (C) are interrupted at the same time, thereby identifying the disc is of 12cm type. The Lock Lever is opened.	
	③	When the disc reaches position ③, it touches top of the Switch Lever and the pin is raised by driving force of the Rubber Roller.	
	④	When the disc reaches position ④ an outer edge of the disc touches the pin which determines the 12cm Disc position and the disc position is set to the chucking center.	
	⑤	It is detected that the disc position has been determined with the Photo Sensor (B) uninterrupted. Then the Solenoid is powered.	

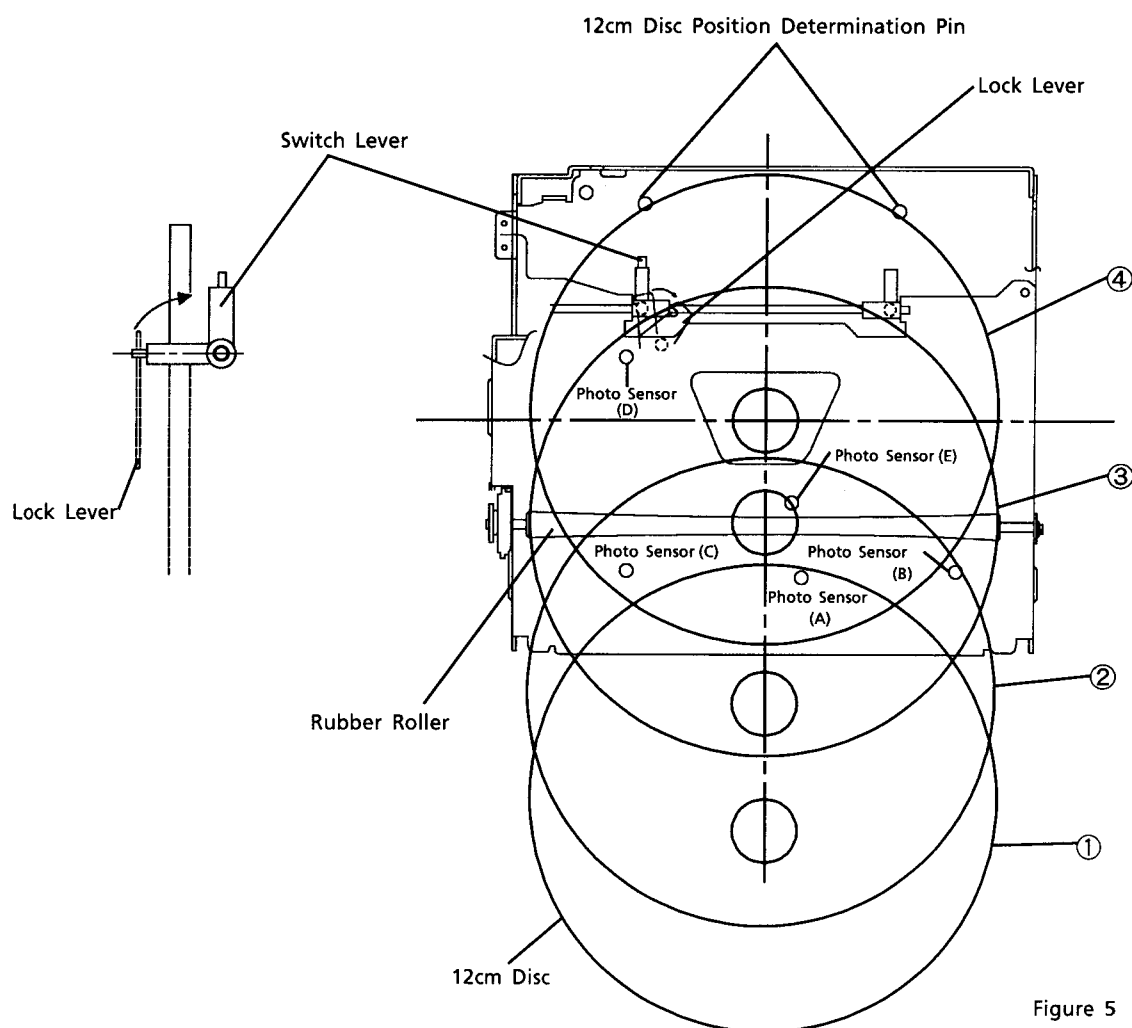
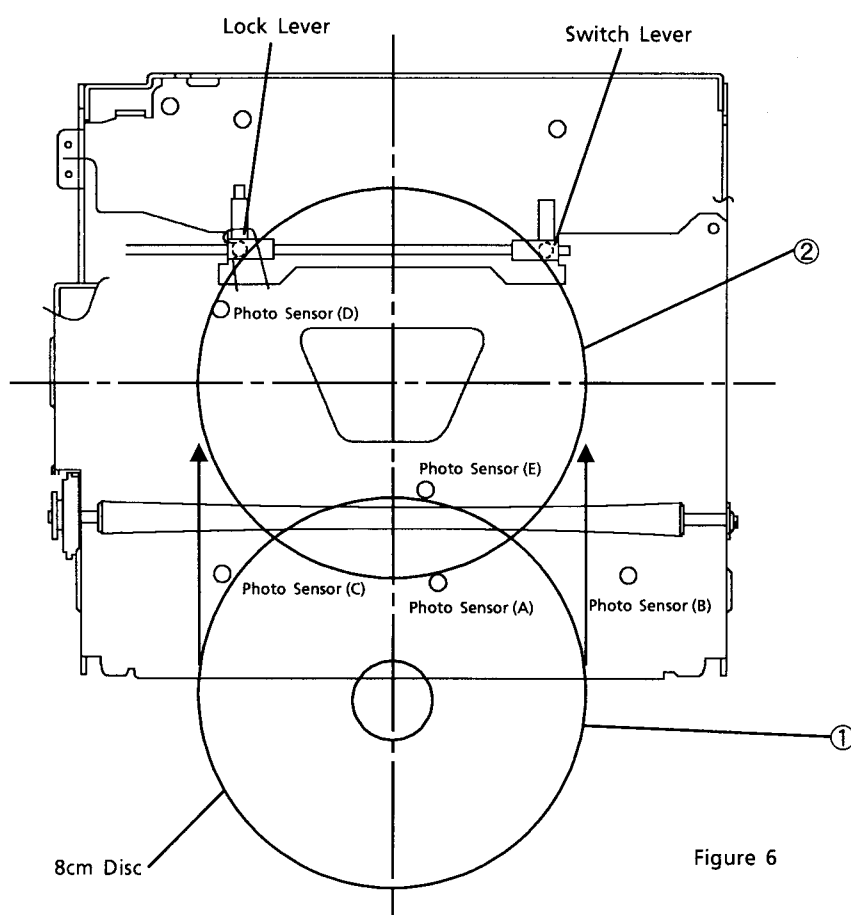


Figure 5

Function	Sequence	Operation	Illustration
8cm Disc pull-in operation	①	When the disc reaches position ①, the Photo Sensor (A) is interrupted and the Loading Motor rotates in forward direction, thereby the disc is pulled in by the Rubber Roller.	Figure 6
	②	Since distance between the Photo Sensors (B) and (C) is larger than the diameter of an 8cm Disc, both of the Photo Sensors (B) and (C) can not be interrupted at the same time when the 8cm Disc is inserted at either left or right side. Accordingly, the Lock Lever does not open until the disc reaches position ②, thus the position is determined directly.	
	③	With the Photo Sensor (D) interrupted and the Photo Sensor (A) uninterrupted, determination of the disc position is detected and the Solenoid is powered.	
	④	After completion of the chucking operation, the Lock Lever is opened and the Switch Lever is moved upward by 90 degrees by a force of Inversion Spring.	



Function	Sequence	Operation	Illustration
Roller drive system operation	①	Loading Motor rotates.	Figure 7
	②	Worm gear of the Motor Shaft rotates and Worm Wheel transfers driving force to the Idler Gear.	
	③	Idler Gear (big) transfers the driving force to the Loading Clutch.	
	④	The Loading Clutch limits the driving torque within 45gcm~85gcm and transfers it to the Rubber Roller.	
	⑤	The Rubber Roller rotates, thereby pulling in the disc.	

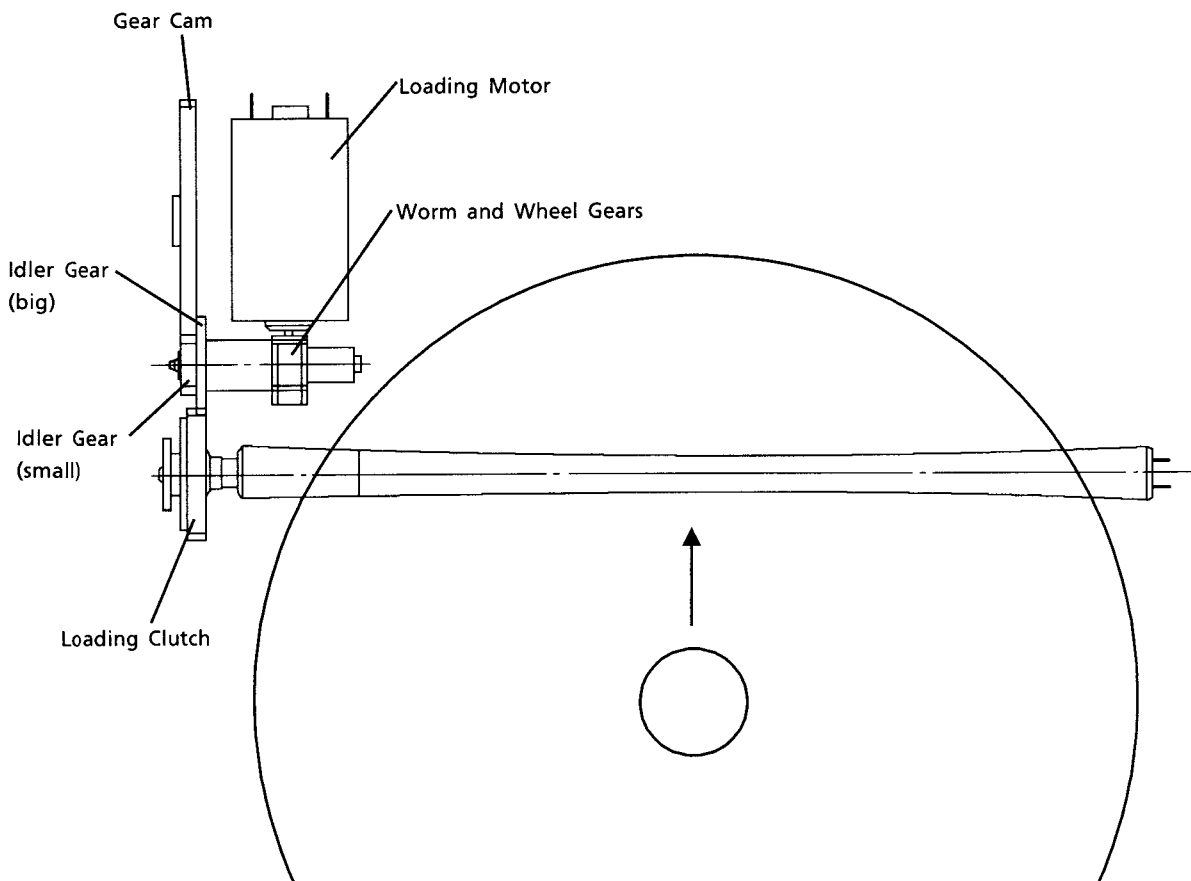
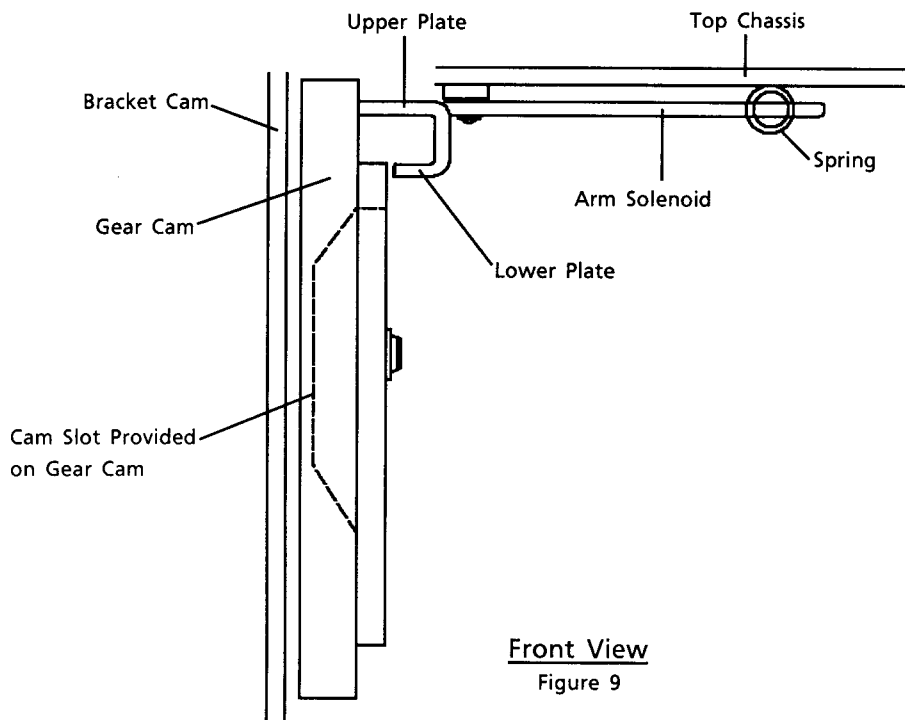
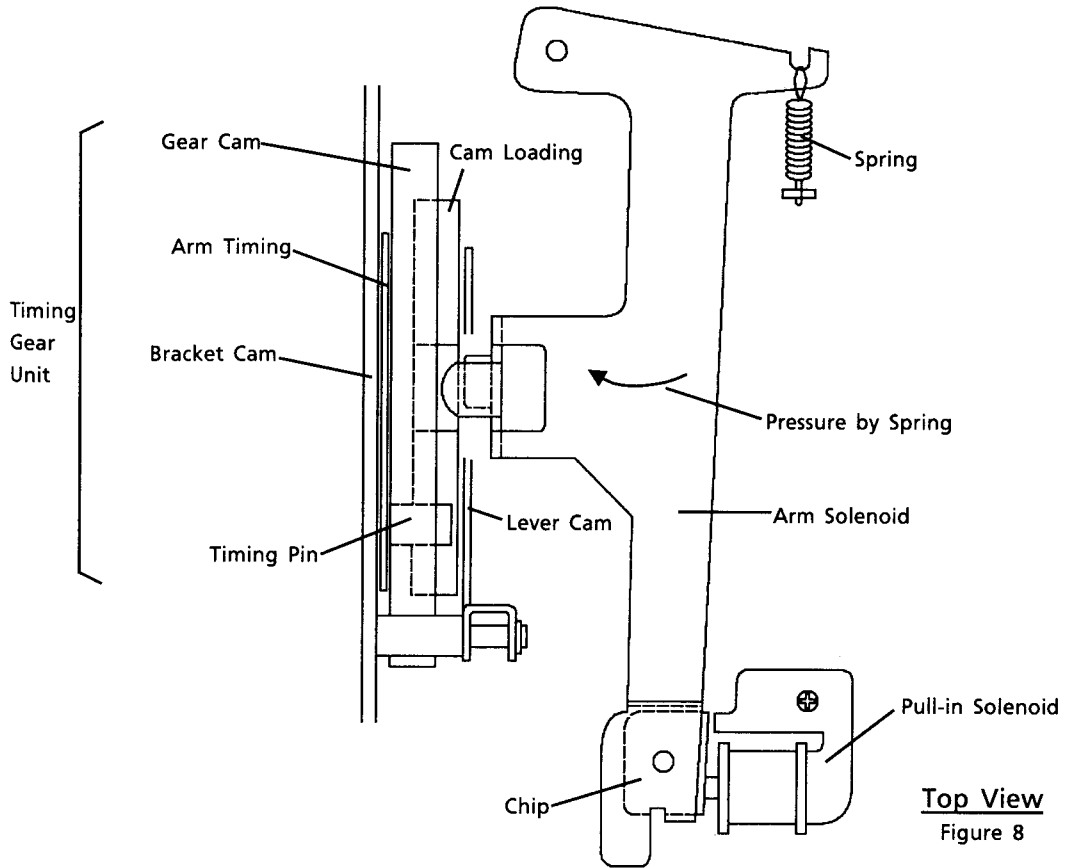


Figure 7

<Structures around Loading Gears>



Function	Sequence	Operation	Illustration
Operations of Timing Gear unit in disc pull-in (Solenoid not powered) operation	①	The Gear Cam rotates in clockwise direction and the Timing Pin comes near the coupling Slot of the Gear Cam.	Figure 10
	②	The Timing Cam is going to enter the Coupling Slot but it is interrupted by a Lower Plate of the Arm Solenoid entered left side along the Cam Slot, so it passes away upper side.	Figure 11
	③	When the Timing Pin passes away the Coupling Slot, the Arm Solenoid is pressed and returned to right side as the Cam Slot does not exist. The Chip and Solenoid touch at this position.	Figure 12

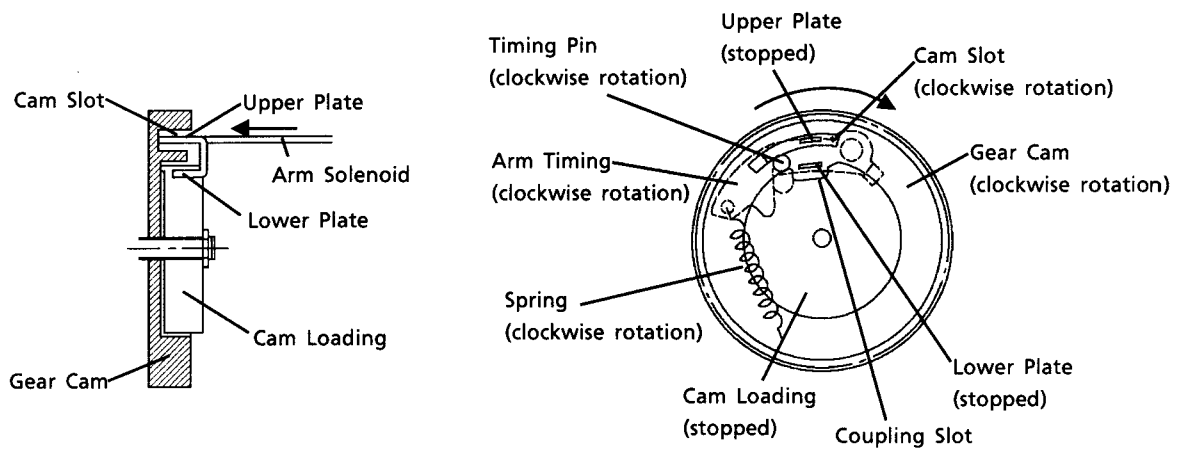


Figure 10

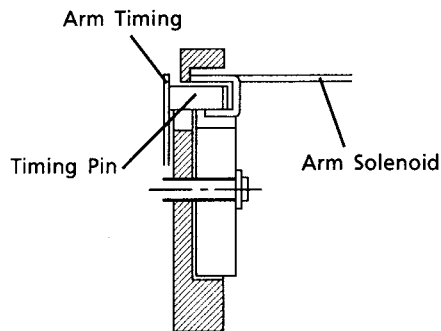


Figure 11

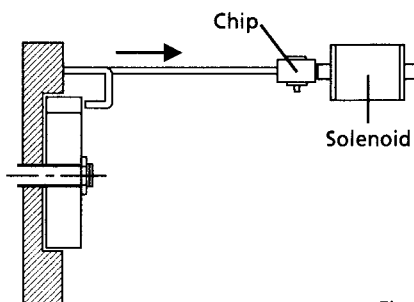


Figure 12

Function	Sequence	Operation	Illustration
Operations of Timing Gear unit in disc chucking (Solenoid powered)	①	The Gear Cam rotates clockwise and the Timing Pin comes near the Coupling Slot. But the Arm Solenoid does not move to left side as the Solenoid is attracting if the Cam Slot moves to the Upper Plate position.	Figure 13
	②	As the arm Solenoid does not move to left side, the Timing Pin is dropped into the Coupling Slot by a force of the Spring without it is interrupted by the Lower Plate.	Figure 14
	③	When the Timing Pin enters the Coupling Slot completely, both the Gear Cam and the Cam Loading start rotation clockwise, thus the chucking operation starts.	Figure 15

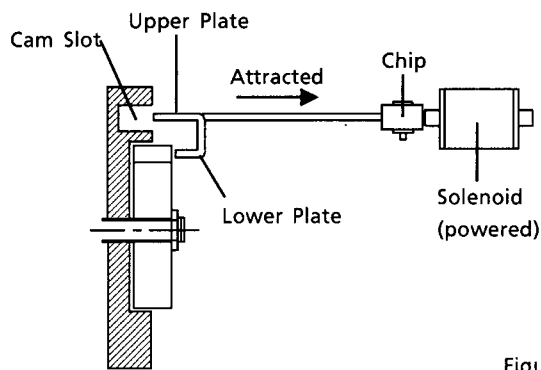


Figure 13

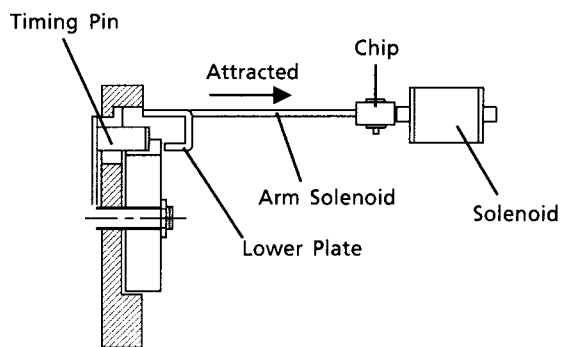
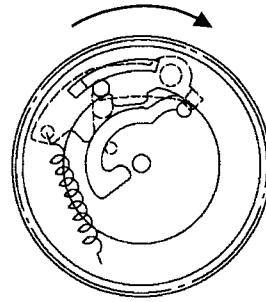


Figure 14

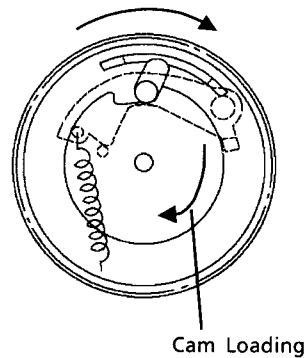
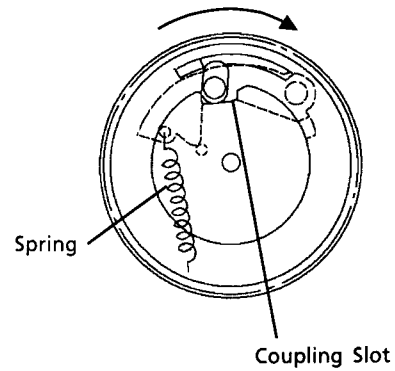


Figure 15

Function	Sequence	Operation	Illustration
Coupling release operation of the Gear Cam and Cam Loading in chucking operations	①	The Gear Cam and the Cam Loading are coupled with the Timing Pin and they begin to rotate clockwise as a unit.	Figure 16
	②	When they rotate by 320 degrees, the chucking operating completes.	Figure 17
	③	The Remove Pin and the Arm Timing Pin touch at this position and the Arm Timing is raised.	Figure 18
	④	When the Timing Pin is disengaged from the Coupling Slot, only the Gear Cam rotates idly.	Figure 19

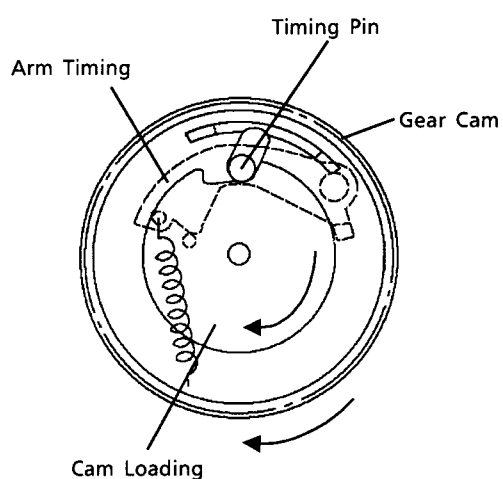


Figure 16

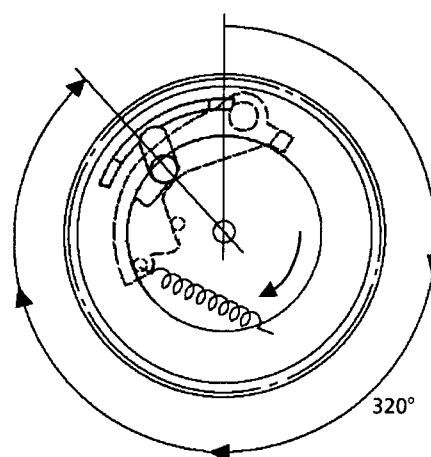


Figure 17

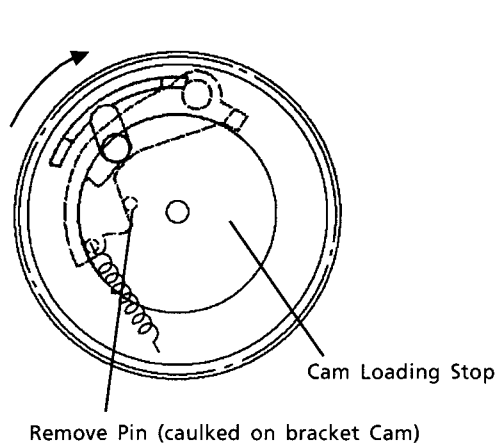


Figure 18

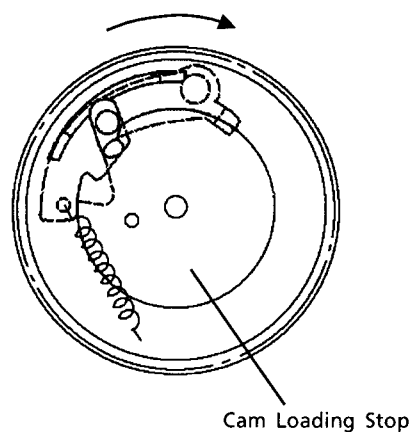
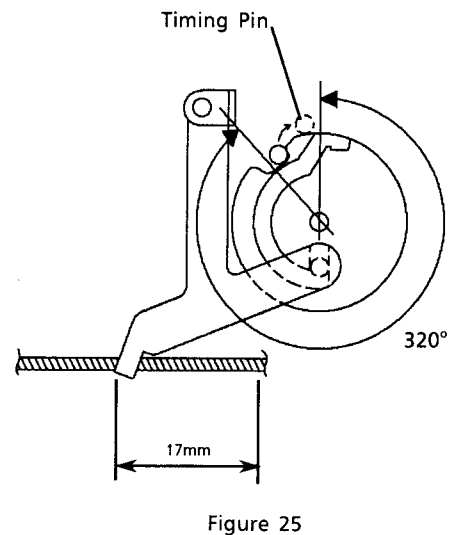
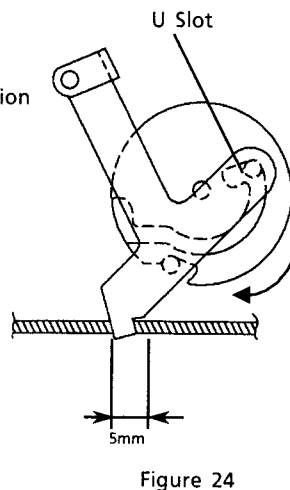
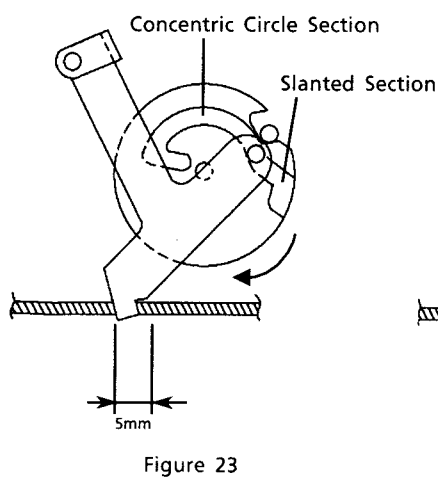
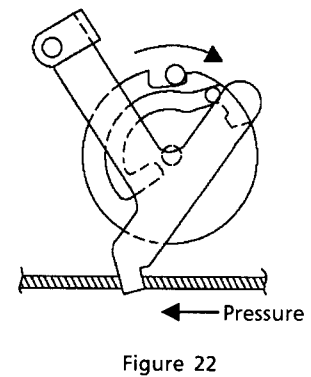
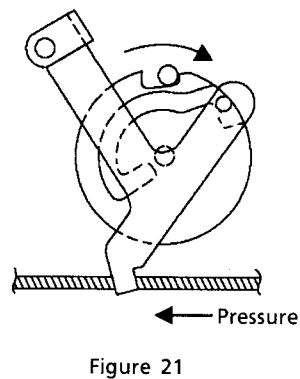
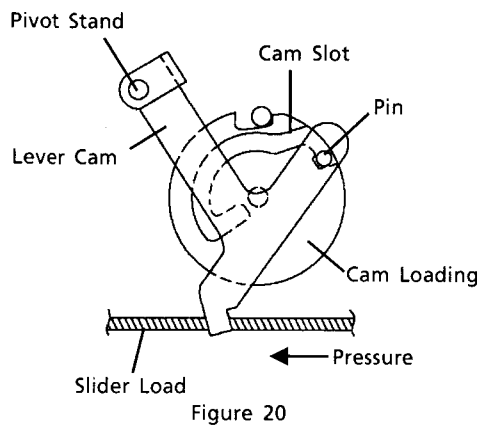


Figure 19

Function	Sequence	Operation	Illustration
Slide feed operation by rotation of Cam Loading in chucking operation	①	Chucking operation start position / the Cam Loading is stopped when the Pin caulked on the Lever Cam drops onto a recessed section of the Cam Slot.	Figure 20
	②	The Pin rises on a protruded section as the Cam Loading rotates clockwise.	Figure 21
	③	The Pin passes over the protruded section and enters the Cam Slot.	Figure 22
	④	The Lever Link is rotated by the slanted section of the Cam Slot and the Slide Load is fed by 5mm.	Figure 23
	⑤	When the Pin enters the Concentric Circle Section of the Cam Slot, the Lever Link stops rotation and only the Cam Loading rotates and enters the U Slot.	Figure 24
	⑥	When the Pin enters the U Slot, the Lever Link rotates again and the Slider Load is further fed by 12mm (in total 17mm). This position is the end position for the Slider Load and the Cam Loading stops at the position rotated by 320 degrees. (The Timing Pin is disengaged from the Coupling Slot.)	Figure 25



Function	Sequence	Operation	Illustration
Chucking operation (drive block is not shown)	①	The Slider Load moves downward by 17mm with rotation of the Lever Link. Following operations are carried out in connection with the motion of the Slider Load.	Figure 26 ①
	②	The Arm Lock (R) rotates clockwise and disengages from the Drive Unit.	Figure 26 ②
	③	The Arm Link (L) rotates counterClockwise and disengages from the Drive Unit.	Figure 26 ③
	④	The Lever Link is slid leftward.	Figure 26 ④
	⑤	The Stud Lock (F) disengages from the Drive Unit.	Figure 26 ⑤
	⑥	The Arm Lock (F) disengages from the Drive Unit.	Figure 26 ⑥
	⑦	The Arm Link (R) rotates cLockwise.	Figure 26 ⑦
	⑧	The Slider Lock moves downward and the Lock section at the end disengages from the Drive Unit.	Figure 26 ⑧

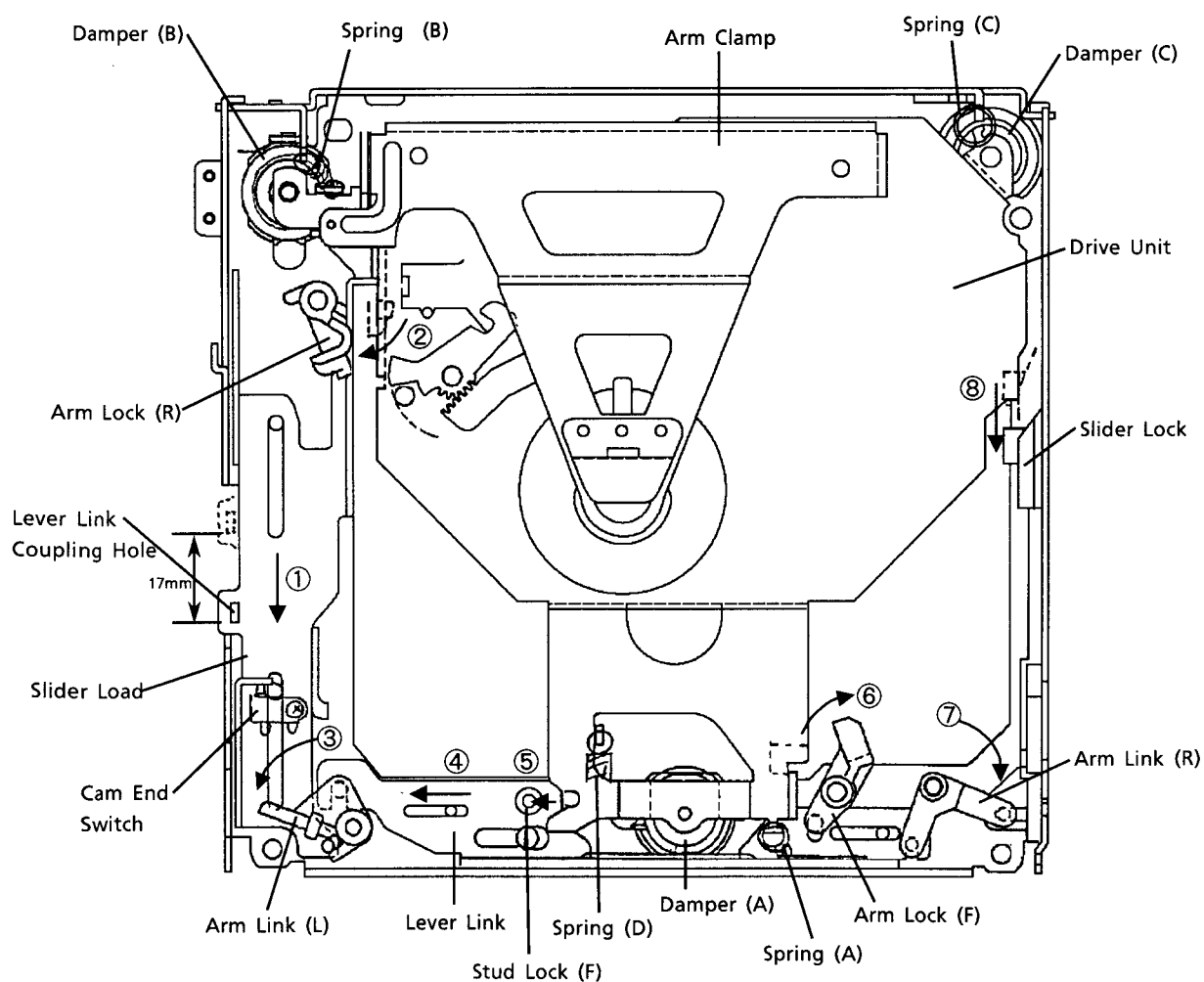
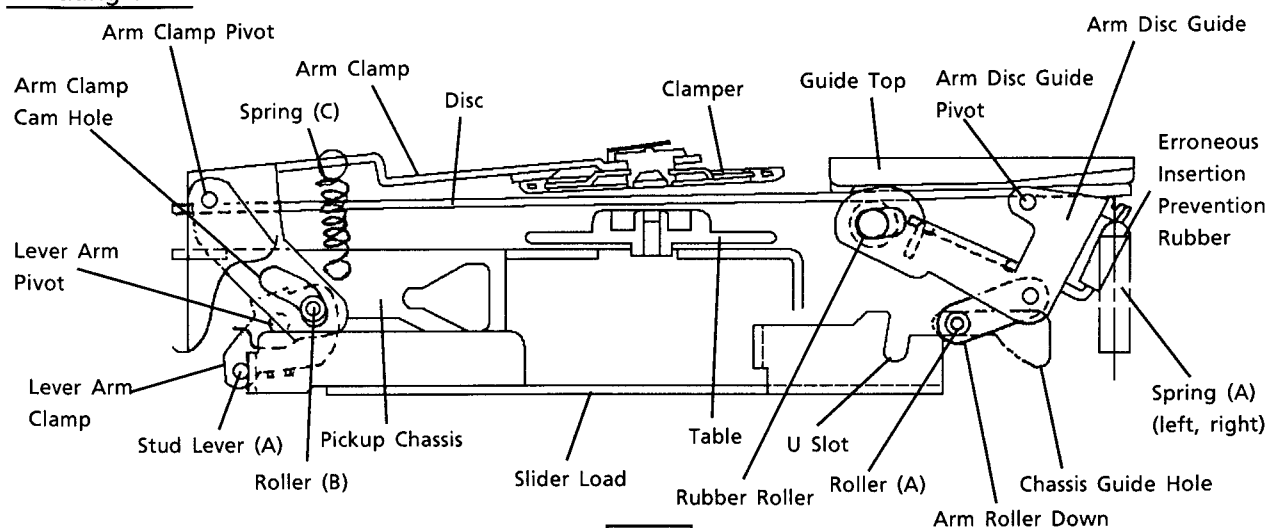


Figure 26

Function	Sequence	Operation	Illustration
Chucking operation (Disc Clamp)	①	When the chucking operation starts, the Slider Load moves rightward by 17mm. Following operations are carried out in relation to the motion of the Slider Load.	Figure 27 ①
	②	As the protruded Section of Slider Load pressing the Stud Lever (A) leftward moves rightward, entire of the Lever Arm Clamp is rotated counterclockwise by force of the Spring (B).	Figure 27 ②
	③	The Roller (B) provided on the Lever Arm Clamp rotates counterclockwise in the Arm Clamp Cam Hole. This motion guides the Arm Clamp and the Arm Clamp is rotated clockwise by force of the Spring (C).	Figure 27 ③
	④	Top of the Arm Clamp lowers and the Clamper drops downward.	Figure 27 ④
	⑤	The U Slot of the Slider Load presses the Roller (A) and the Roller (A) moves rightward along to the chassis guide hole.	Figure 27 ⑤
	⑥	This motion of the Roller (A) is transferred to the Arm Disc Guide through the Arm Roller Down and the Arm Disc Guide rotates counterclockwise and the Rubber Roller moves downward.	Figure 27 ⑥
	⑦	Erroneous Insertion Prevention Rubber provided on the Arm Disc Guide covers the disc Insertion Slot.	Figure 27 ⑦

Chucking start



Chucking end

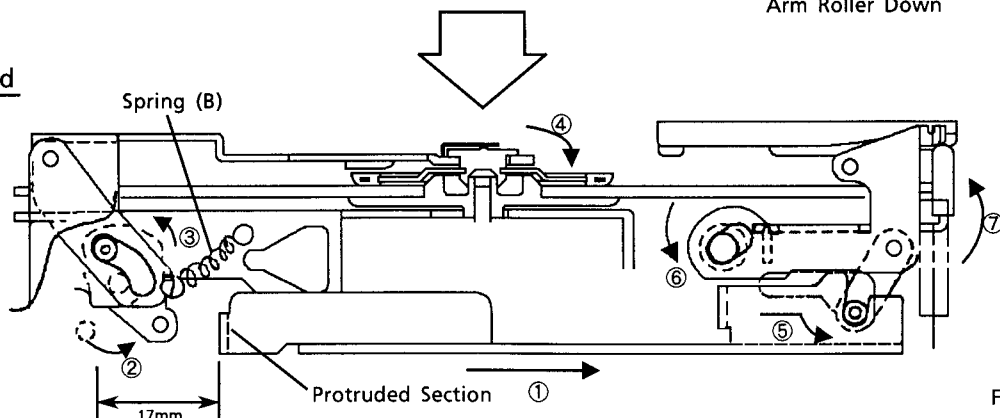


Figure 27

Function	Sequence	Operation	Illustration
Pickup feed operation	①	The Sled Motor rotates, the speed is reduced by the Motor Gear, Middle Gear and Gear Screw, and the Shaft Screw rotates.	Figure 28
	②	The Spring nut engaging with the Shaft Screw is fed to inner or outer side by the rotation of the Shaft Screw, and the Pickup moves along to two Shafts.	

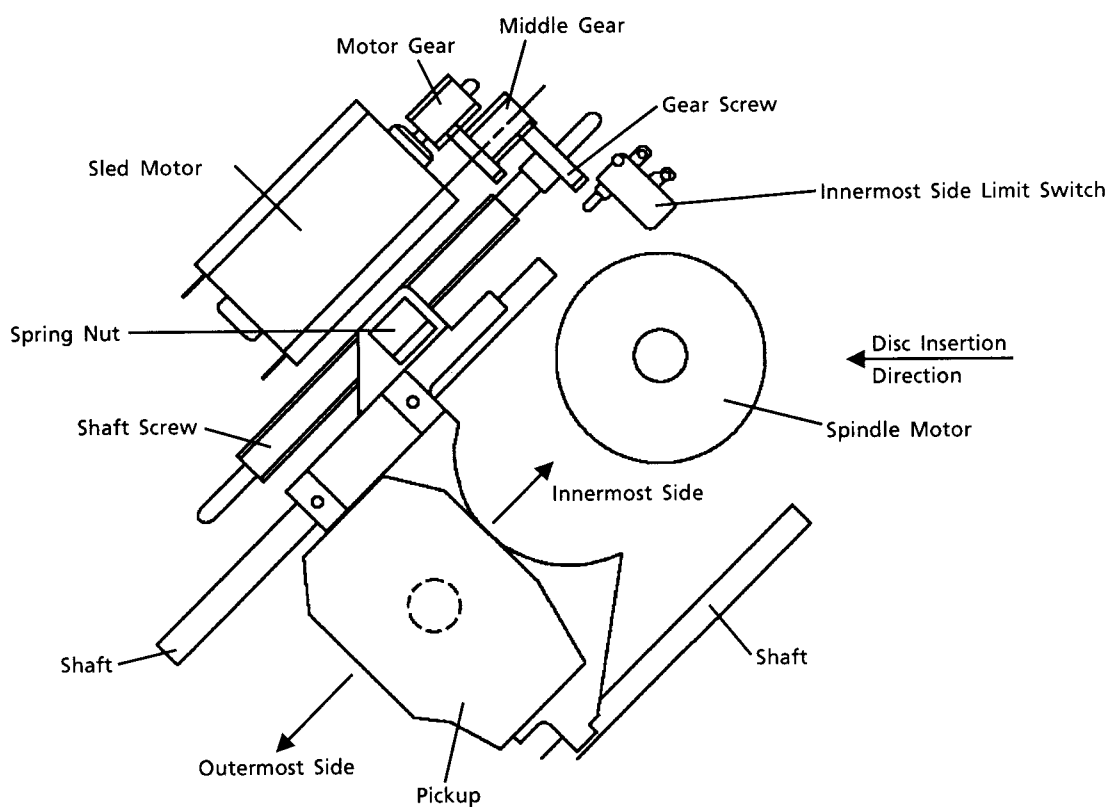
Bottom View

Figure 28

Function	Sequence	Operation	Illustration
Disc eject operation	①	12cm / 8cm Disc position during playback. When the eject button is pushed, and the Photo Sensor (C) is interrupted, it is determined that a 12cm Disc is loaded. On the other and if it is not interrupted it is determined that an 8cm Disc is loaded, and the eject operation starts.	Figure 29 ①
	②	Releasing operations of the Rubber Roller, Clamper and Drive Lock are carried out in reverse order as those in the chucking operations. In this case, Switch Pin returning operation is added. With this operation, the Switch Pin is returned to vertical direction and its top drops onto the position determination slot of the Drive Unit.	Figure 29 ②
	③	12cm Disc is stopped when the eject position is detected with the Photo Sensor (B) not interrupted.	Figure 29 ③
	④	8cm Disc is stopped when the eject position is detected with the Photo Sensor (C) not interrupted.	Figure 29 ④
	⑤	The Lever Pin Lock performs Switch Pin lock operation and returns to the initial status.	Figure 29 ⑤

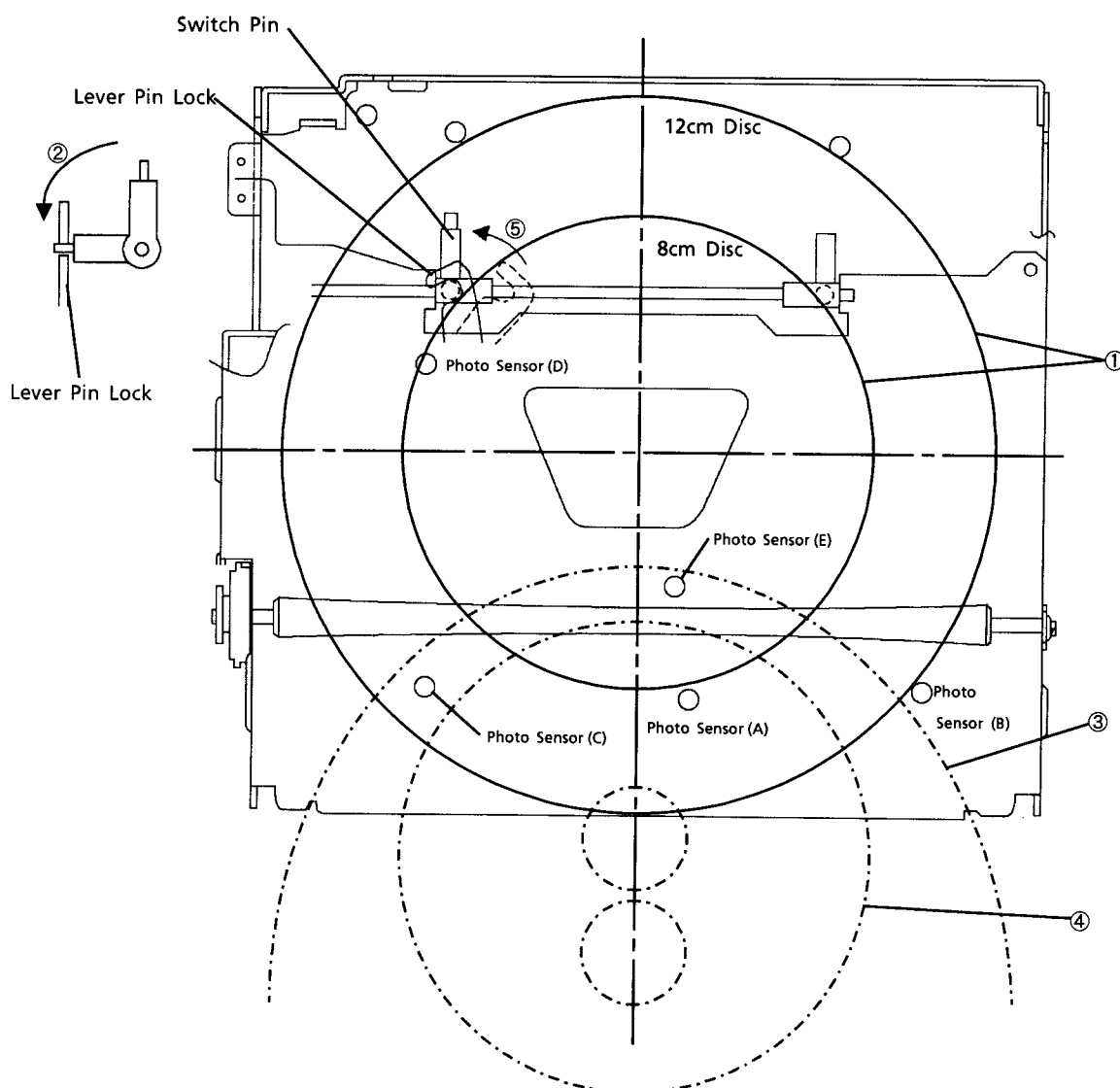


Figure 29

Function	Sequence	Operation	Illustration
Operation of Gear Cam and Cam Loading in eject operations	①	When the eject button is pressed, the Loading Motor rotates in reverse direction from the direction as in the Loading operation, and the Gear Cam rotates counterclockwise through the a Gear.	Figure 30
	②	The Timing Pin drops in the Coupling Slot of the Cam Loading and the Cam Loading and the Gear Cam coupled together start to rotate.	Figure 31
	③	After rotation of 320 degrees, top of the Arm Timing touches the Remove Pin.	Figure 32
	④	And the top of the Arm Timing is raised by the Remove Pin, and the Arm Timing is rotated clockwise. Then, the Timing Pin begins to come out from the Coupling Slot.	Figure 33
	⑤	The Timing Pin comes out from the Coupling Slot, the Cam Loading stops, and only the Gear Cam rotates idly.	Figure 34

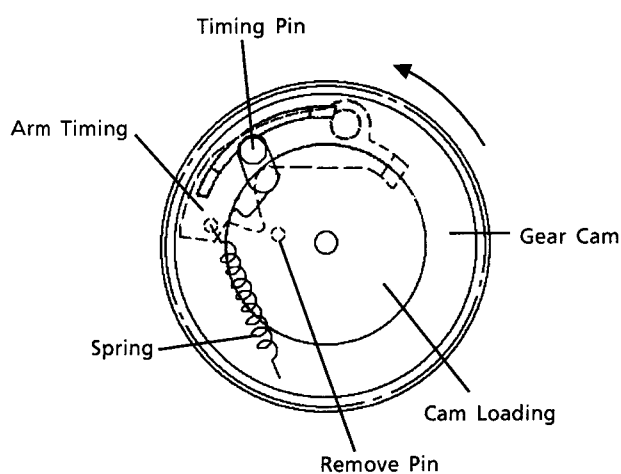


Figure 30

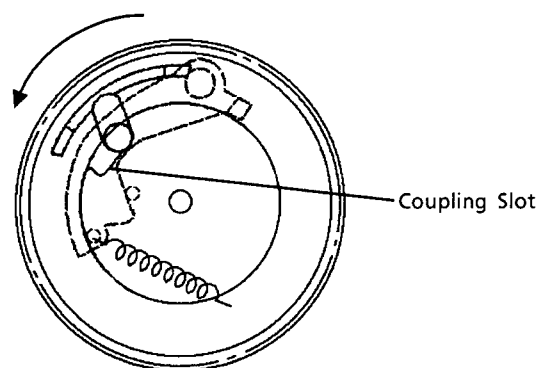


Figure 31

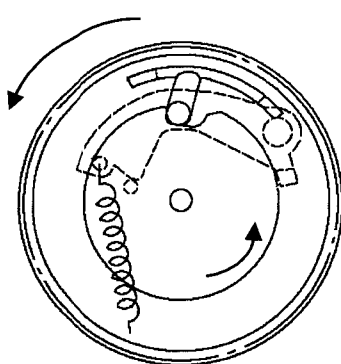


Figure 32

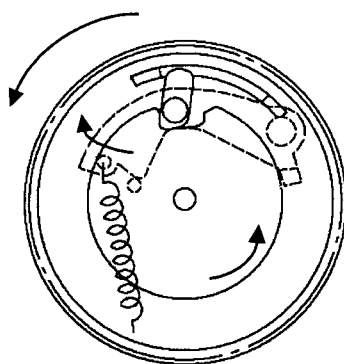


Figure 33

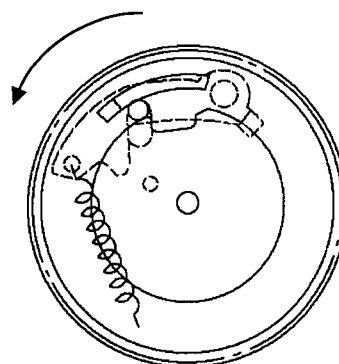


Figure 34

Function	Sequence	Operation	Illustration
Eject operation (Switch Lever returning)	①	The eject start position is located at right of the Rack Gear (A) and the Rack and the Gear (A) are engaged when the Slider Load moves leftward. ... ㉔	Figure 36
	②	The Gear (B) and the Gear (C) start to engage when the Rack is fed by 12mm. ... ㉕	
	③	The eject operation completes when the Rack moves by 17mm. The Gear (A) returns to the original position by force of the Spring. ... ㉖ The Gear (C) separates from the Gear (B). ... ㉕ The Switch Lever rotates and returns to the vertical position and fixed at that position by force of the Inversion Spring. ... ㉔	

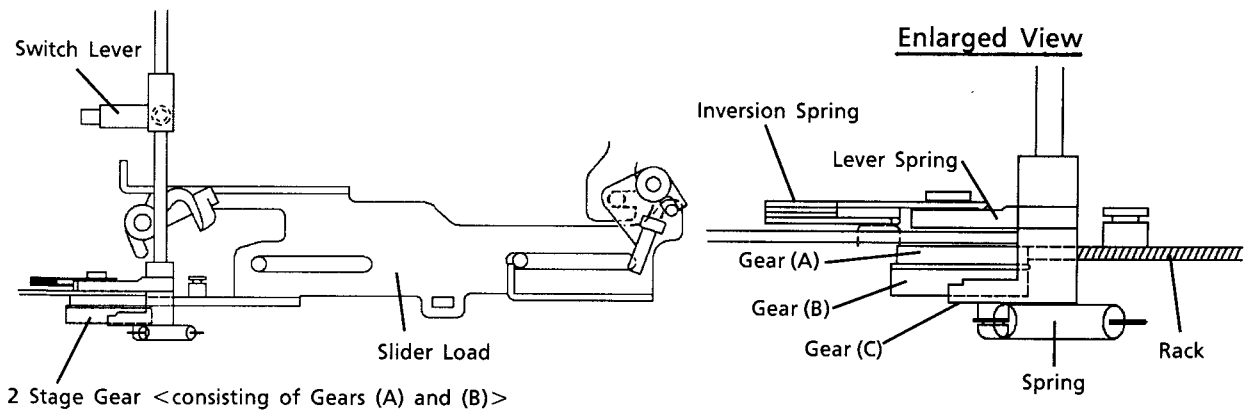


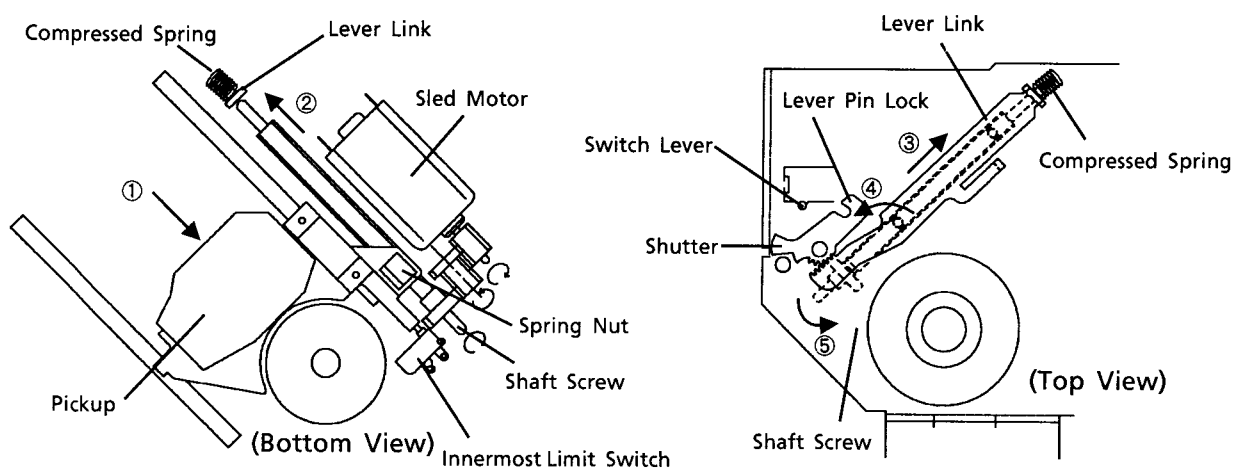
Figure 35

Figure 36

	①	②	③
㉔ Operations of Inversion Spring and Lever Spring			
㉕ Operations of Gears (B) and (C)			
㉖ Operations of Gear (A) and Rack			

Function	Sequence	Operation	Illustration
Operation of Switch Pin Lock	①	When the Pickup moves inner side and touches the stopper, it stops, but the Motor continues to rotate. In this case, the Innermost Limit Switch is pushed and it is determined that the Pickup reached the Innermost end.	Figure 37 ①
	②	As the Spring Nut does not move to inner side, a force (as a reaction) in outer side direction is applied to the Shaft Screw. The Shaft Screw has a clearance in the thrust direction and deviated to inner side direction with a Compressed Spring. As a result, it presses the Spring when the force in outer side direction is applied, and the Shaft moves outer side.	Figure 37 ②
	③	The force in the outer direction is transferred to the Lever Link and the Lever Link moves the outer side in the same way.	Figure 37 ③
	④	The Lever Pin Lock rotates clockwise through the Rack.	Figure 37 ④
	⑤	The Shutter provided on the Lever Pin Lock moves in direction which interrupts the Photo Sensor (D).	Figure 37 ⑤
	⑥	The Photo Sensor (D) is uninterrupted when the Shaft moves by 3mm. This is detected and used to stop the Motor.	Figure 37 ⑥
	⑦	At this position, the Lever Pin Lock engages the Switch Pin and Locks.	Figure 37 ⑦

① Lock operation start



② Lock operation complete

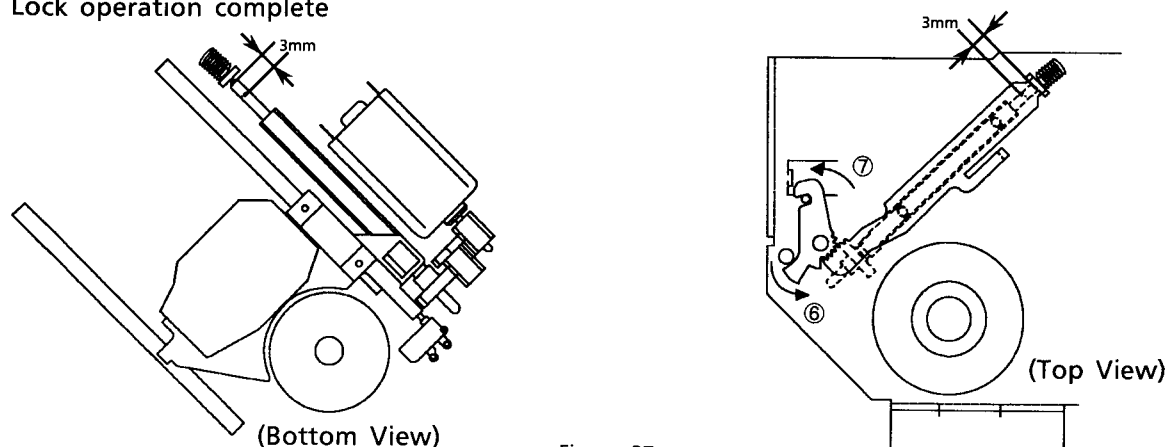
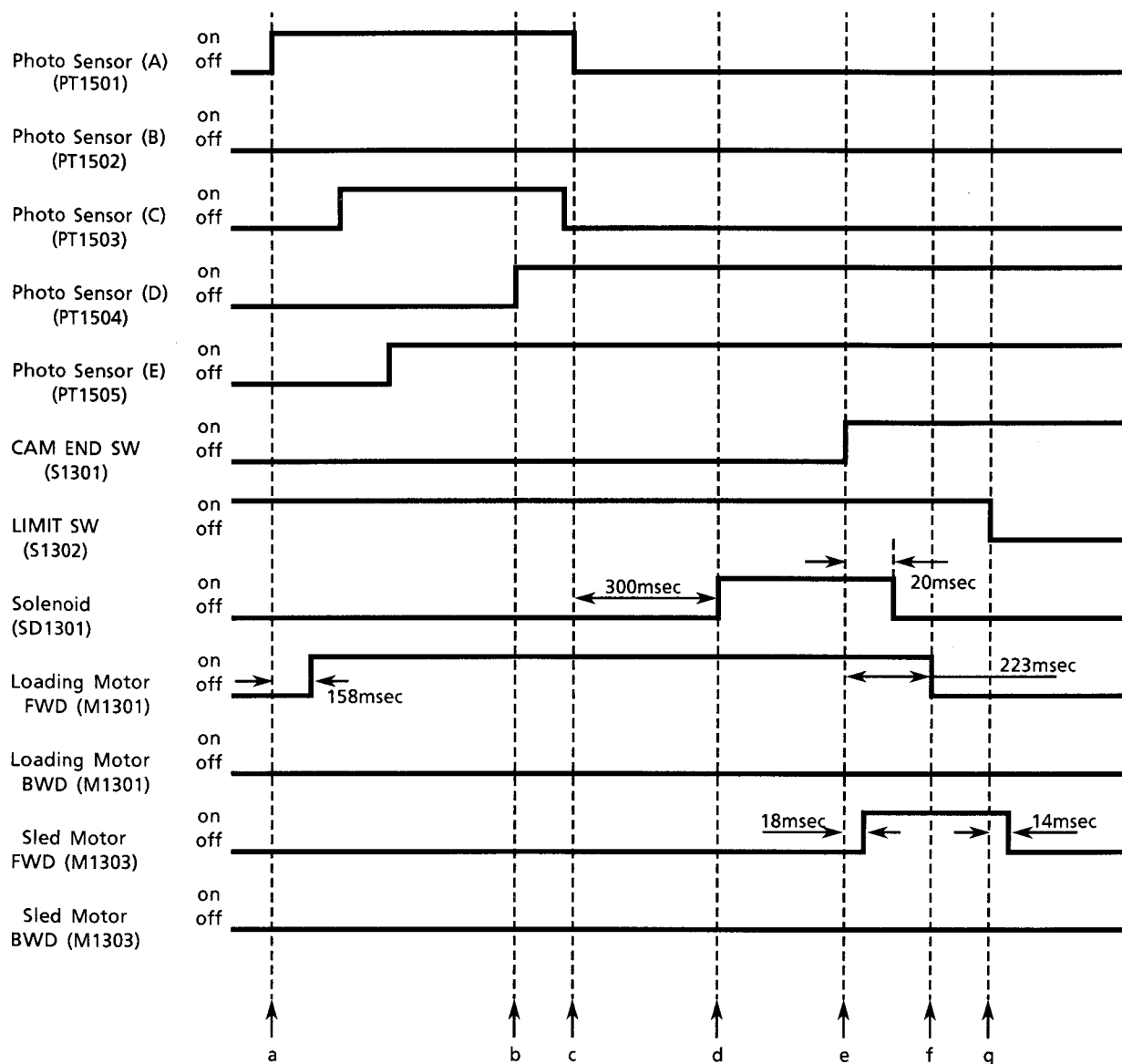


Figure 37

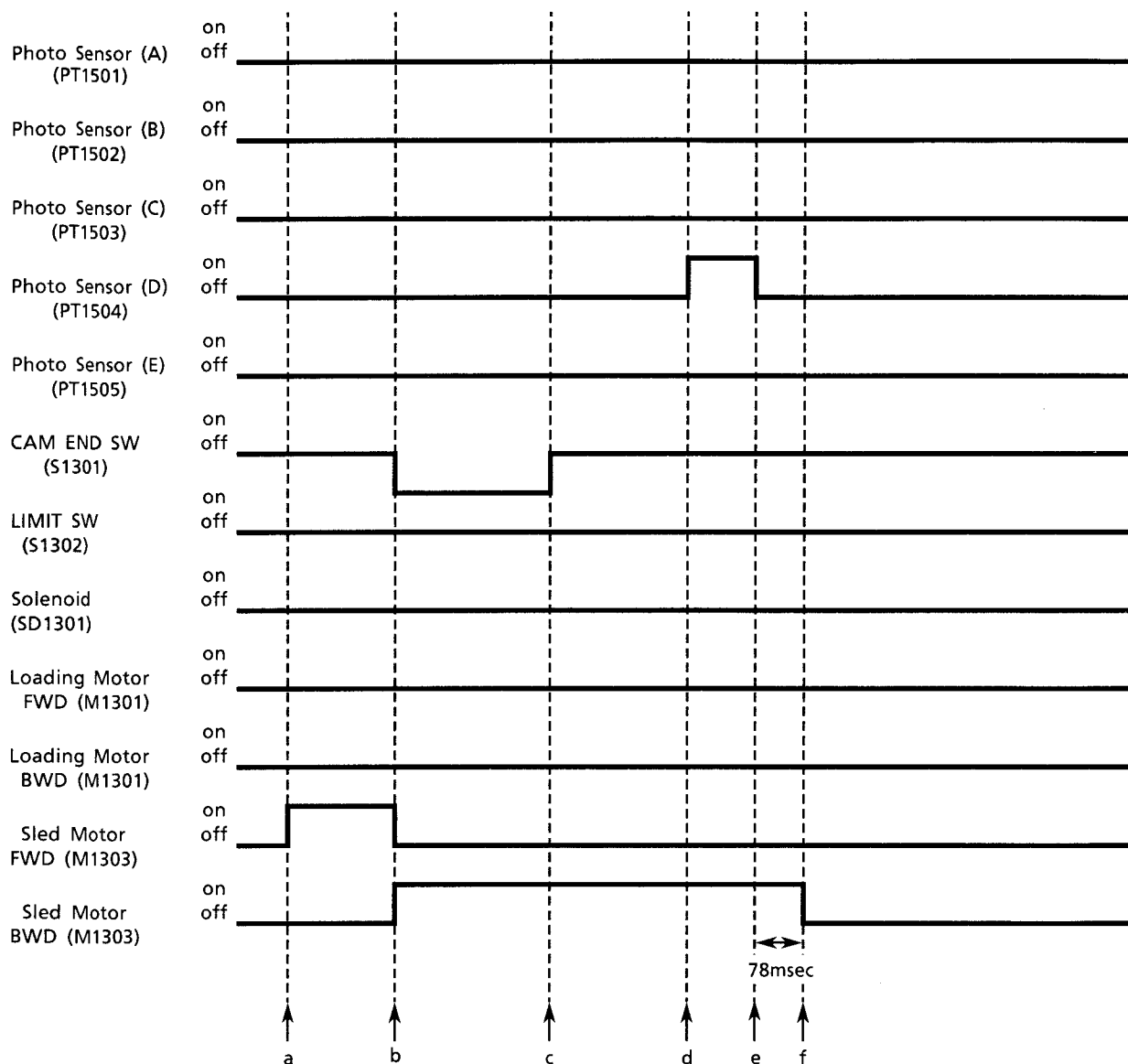
Timing Chart

8cm Disc Loading Timing Chart



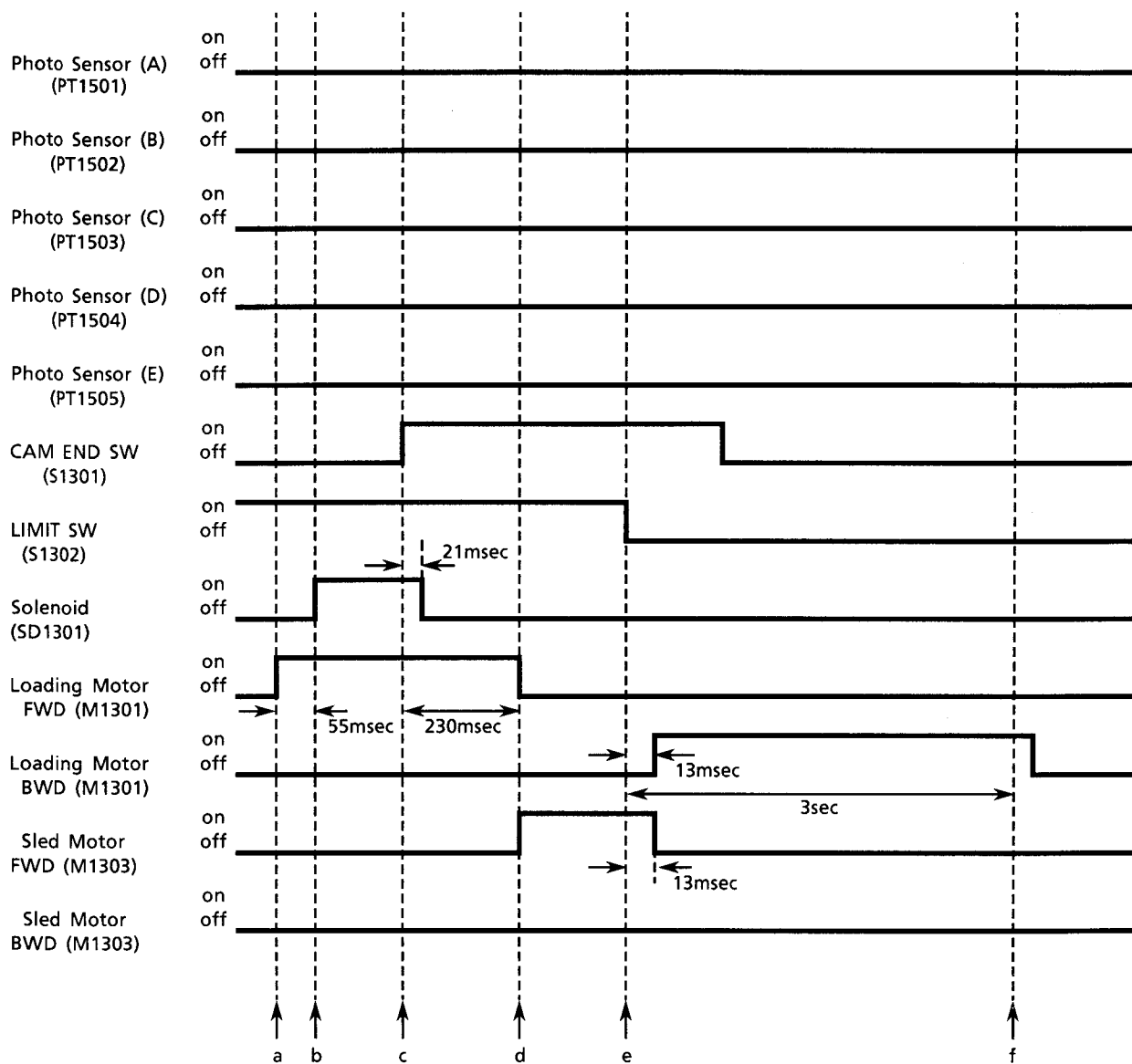
- With the Photo Sensor (A) turned on, the Loading Motor FWD is turned on.
- With the Photo Sensors (A) and (C) not turned on at the same time but the Photo Sensor (D) turned on, the disc type is determined as an 8cm Disc.
- With both of the Photo Sensors (A) and (C) turned off, a 300msec timer is set.
- With both of the Photo Sensors (A) and (C) turned off after 300msec elapsed, the Solenoid is turned on.
- With the CAM END SW turned on, the Solenoid is turned off and a 200msec timer is set. At the same time the Sled is moved to outermost side.
- After 200msec elapsed, the Loading Motor FWD is turned off.
- With the LIMIT SW turned off, the Sled Motor FWD is turned off.

Lock on Timing Chart



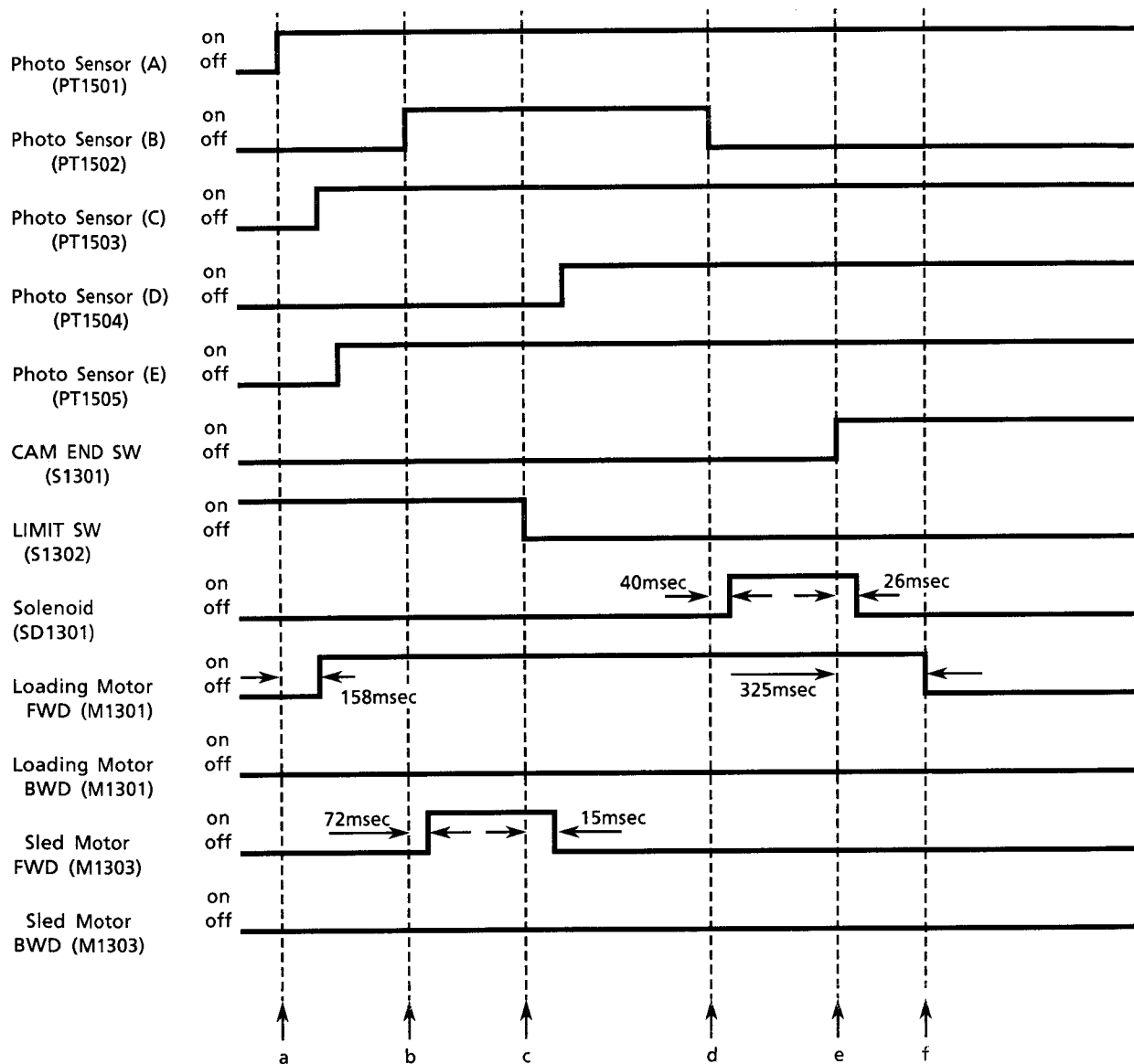
- As the LIMIT SW is on, the Sled is once moved to the outermost side to turn off the LIMIT SW.
- With the LIMIT SW turned off, the Sled is moved to the innermost side.
- The LIMIT SW is turned on.
- Photo Sensor (D) is turned on.
- With the Photo Sensor (D) turned off, a 65msec timer is set.
- After 65msec elapsed, the Sled Motor is turned off.

Single Guard on Timing Chart



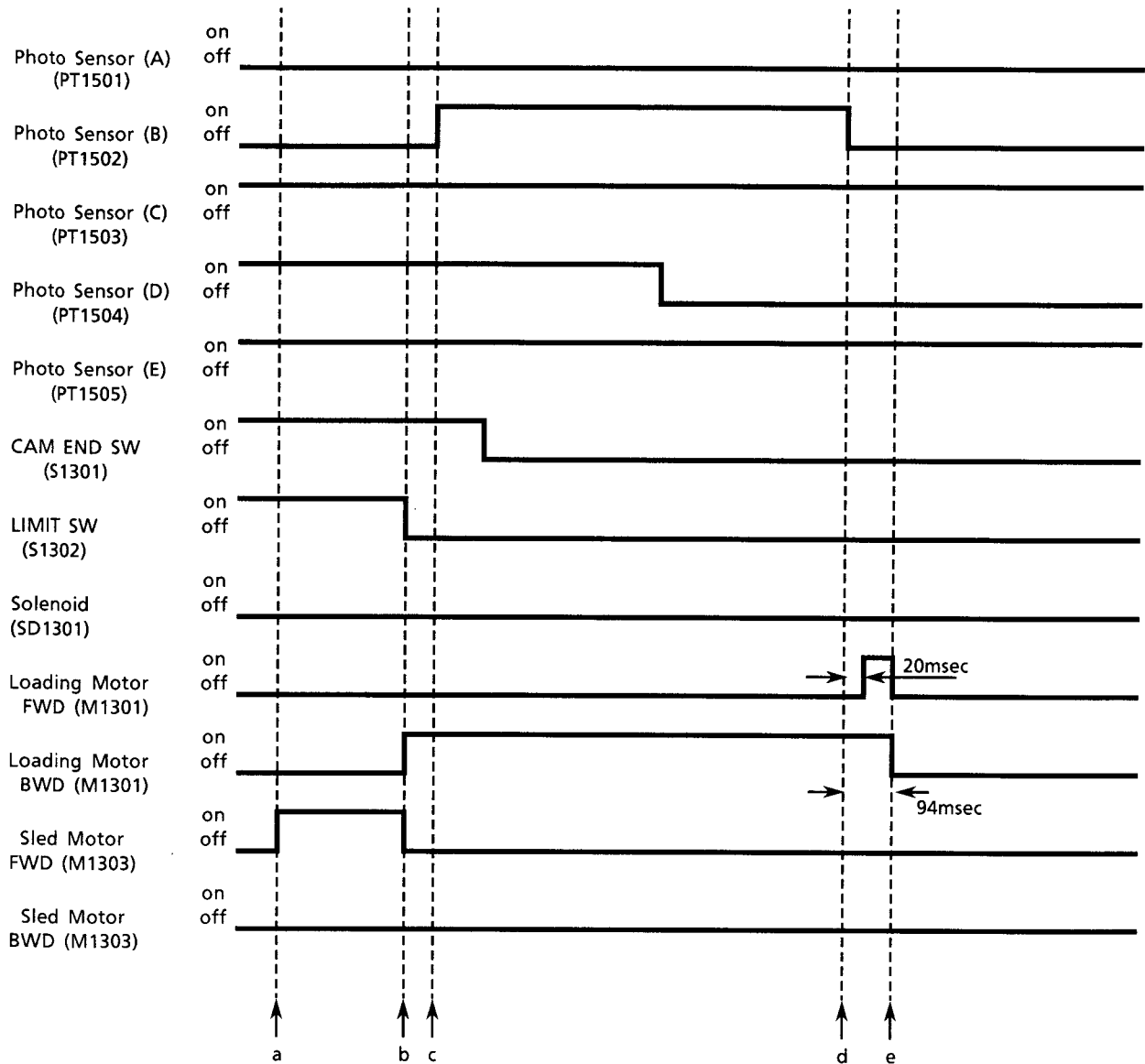
- The Loading Motor FWD is turned on and a 50msec timer is set.
- After 50msec elapsed, the Solenoid is turned on.
- With the CAM END SW turned on, the Solenoid is turned off. The 200msec timer is set.
- After 200msec elapsed, the Loading Motor FWD is turned off. As the LIMIT SW is turned on, the Sled is moved to the outermost side and the lock is released.
- With the LIMIT SW turned off, the Sled is turned off. The Loading Motor BWD is turned on and a 3sec timer is set.
- After 3sec elapsed, the Loading Motor BWD is turned off.

12cm Disc Loading Timing Chart



- With the Photo Sensor (A) turned on, the Loading Motor FWD is turned on.
- As the Photo Sensors (B) and (C) are turned on, the disc type is determined as a 12cm disc. The Sled is moved to the outermost side to release the lock.
- With the LIMIT SW turned off, the Sled is turned off.
- As the Photo Sensor (B) is turned off and the Photo Sensor (D) is on, the Solenoid is turned on.
- With the CAM END SW turned on, the Solenoid is turned off and the 200msec timer is set.
- After 200msec elapsed, the Loading Motor FWD is turned off.

12cm Disc Eject Timing Chart

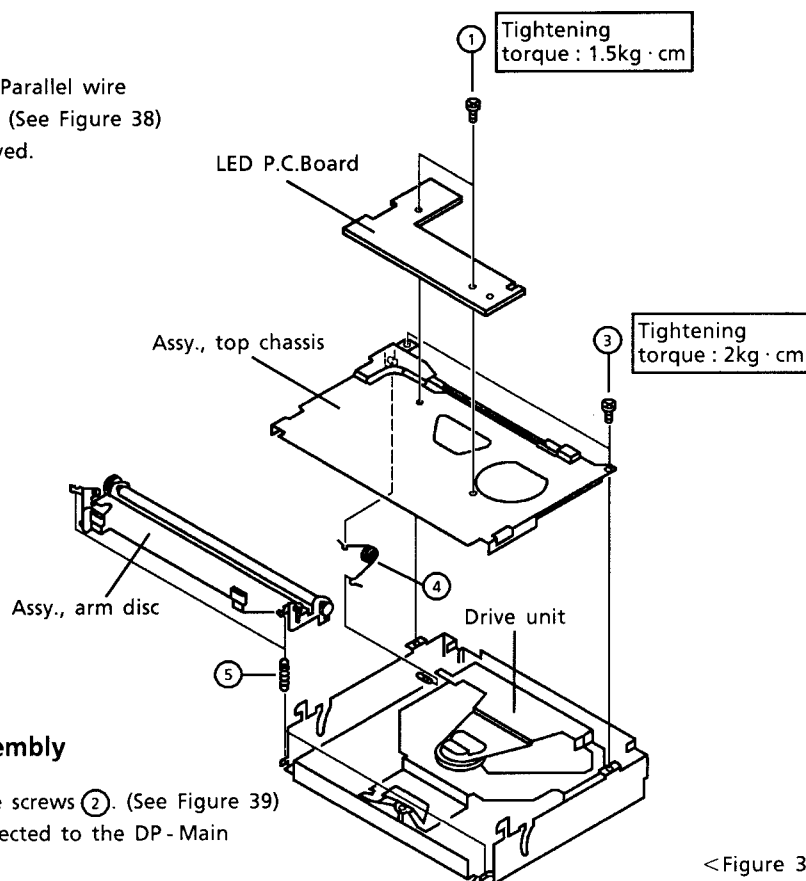


- As the LIMIT SW is turned on, the Sled is moved to the outermost side to release the lock.
- With the LIMIT SW turned off, the Sled is Turned off. The Loading Motor BWD is turned on.
- The Photo Sensor (B) is turned on.
- With the Photo Sensor (B) turned off, the Loading Motor FWD is set and the 50msec timer is set. (Brake ON).
- After 50msec elapsed, the Loading Motor FWD and the Loading Motor BWD are turned off.

Component disassembly and assembly notes

1. LED P.C.Board disassembly

- (1) Remove two screws ① and the Parallel wire connected to the LED P.C.Board. (See Figure 38)
The LED P.C.Board can be removed.



<Figure 38>

2. DP - Main P.C.Board disassembly

- (1) Remove the Solder ① and three screws ②. (See Figure 39)
- (2) Remove the all connectors connected to the DP - Main P.C.Board.
The DP - Main P.C.Board can be removed.

<Assembly note>

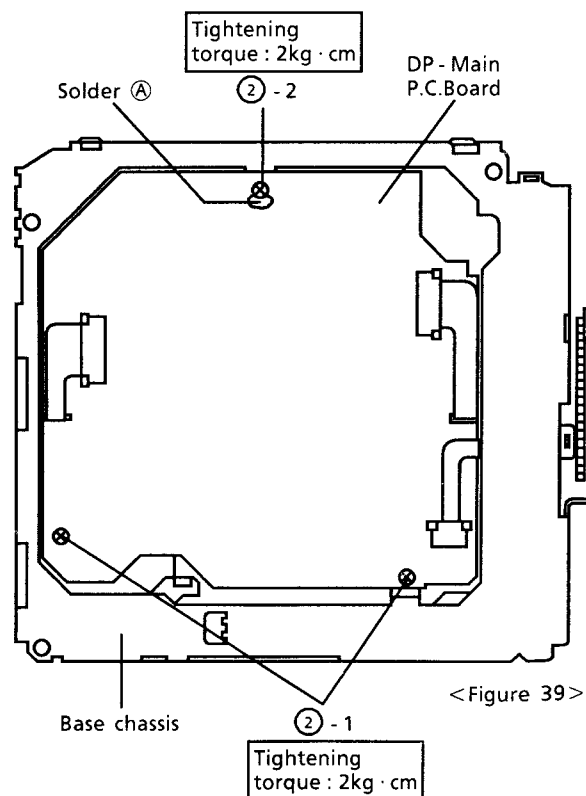
- The screw ②-2 type is different from that of the screws ②-1.

3. Drive unit disassembly

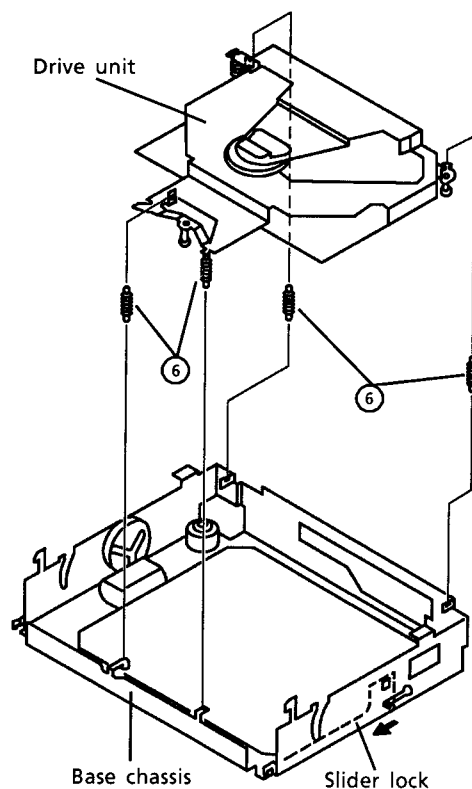
- (1) Remove two screws ③ and one spring ④, the Assy., top chassis can be removed. (See Figure 38)
- (2) Remove two springs ⑤, the Assy., arm disc can be removed. (See Figure 38)
- (3) Remove four springs ⑥, pull up the Drive unit. (See Figure 40)
The Drive unit can be removed.

<Assembly note>

- Move the Slider lock fully in the direction indicated by the arrow. (See Figure 40)



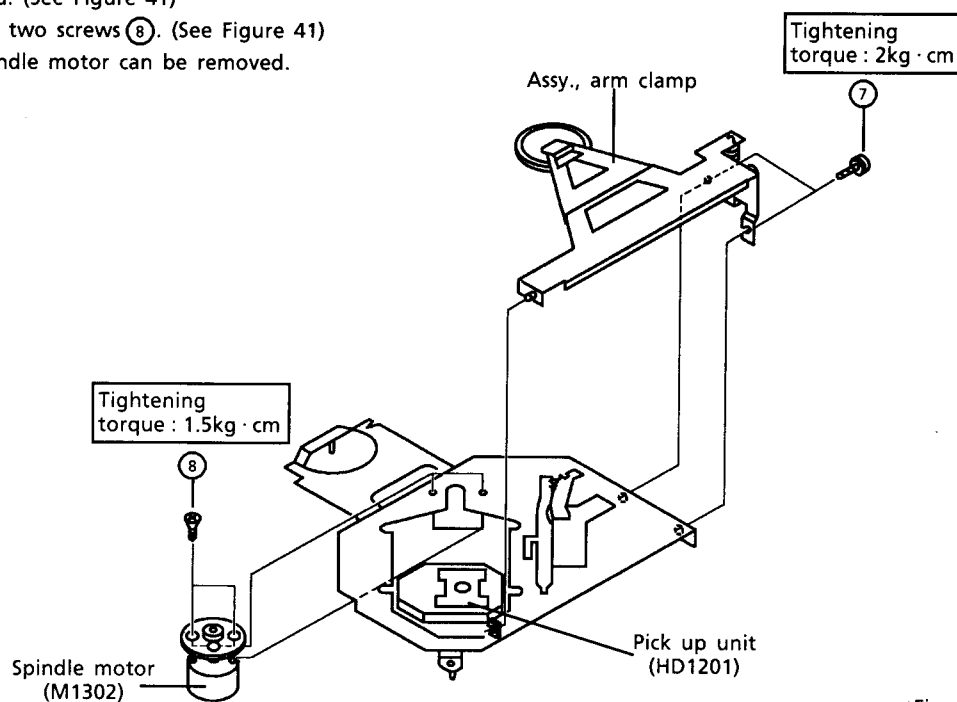
<Figure 39>



<Figure 40>

4. Spindle motor (M1302) disassembly

- (1) Remove two screws ⑦, the Assy., arm clamp can be removed. (See Figure 41)
- (2) Remove two screws ⑧. (See Figure 41)
The Spindle motor can be removed.



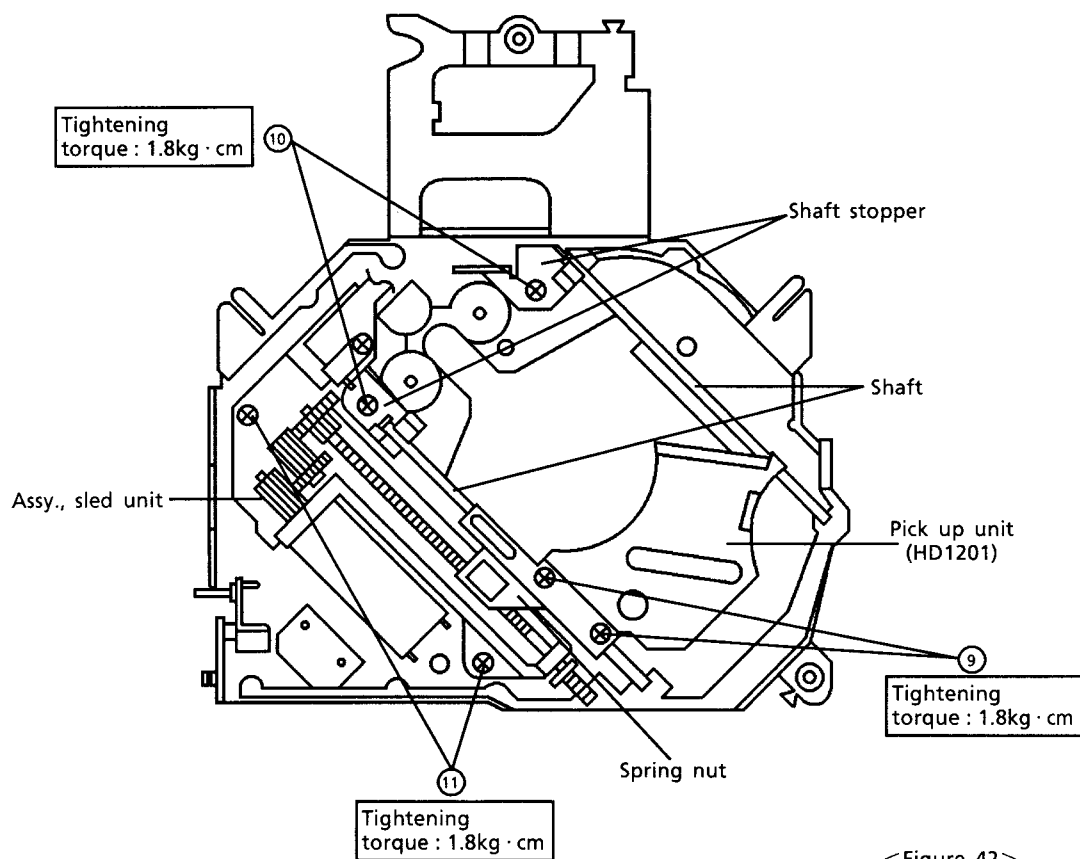
<Figure 41>

5. Pick up unit (HD1201) disassembly

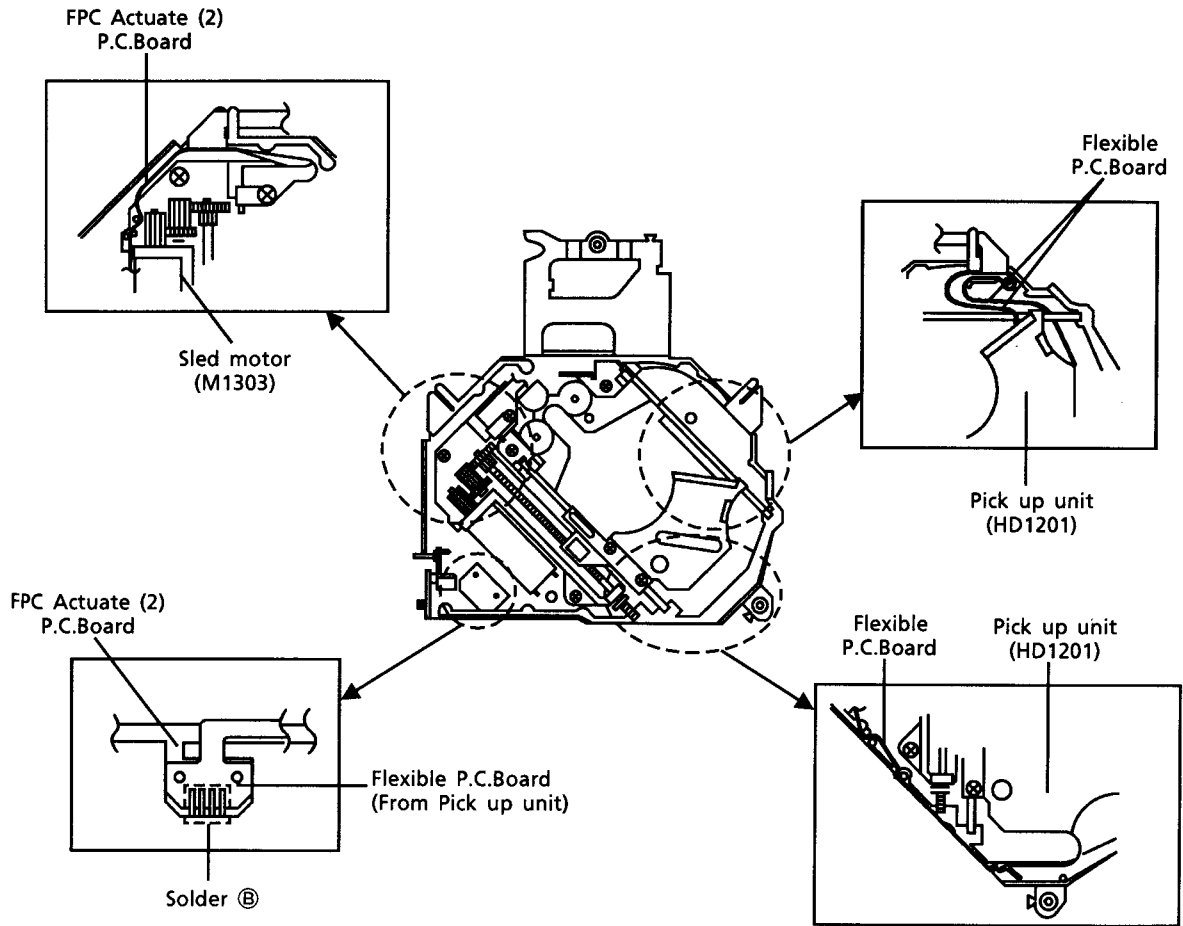
- Wear an electrostatic discharge band when disassembling the Pick up unit. Do not touch the lens or P.C.Board.
 - (1) Remove two screws ⑨, the Spring nut can be removed. (See Figure 42)
 - (2) Remove two screws ⑩, the two Shaft stopper can be removed. (See Figure 42)
 - (3) Remove two Shaft. (See Figure 42)
 - (4) Remove the Solder ㊸ connected between FPC Actuate (2) P.C.Board and Flexible P.C.Board (Pick up unit). (See Figure 43)
- Note : Don't cut Flexible P.C.Board by removing Solder ㊸.
The Pick up unit can be removed.

<Assembly notes>

- Always wear an electrostatic discharge band.
- Never touch the lens of the Pick up unit or P.C.Board.
- Form the two Flexible P.C.Board from the Pick up unit as shown in Figure 43.



<Figure 42>



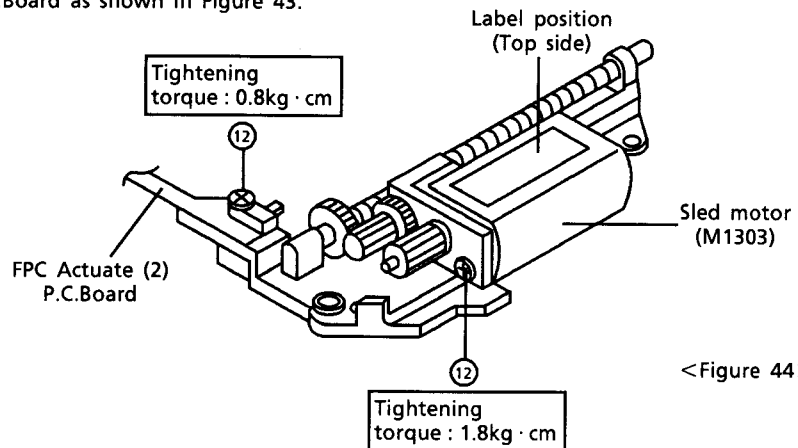
<Figure 43>

6. Sled motor (M1303) disassembly

- (1) Remove two screws ⑪, the Assy., sled unit can be removed. (See Figure 42)
- (2) Remove two screws ⑫. (See Figure 44)
The Sled motor with FPC Actuate (2) P.C.Board can be removed.

<Assembly notes>

- Mount the Sled motor (M1303) so the label position is correct. (See Figure 44)
- Form the FPC Actuate (2) P.C.Board as shown in Figure 43.



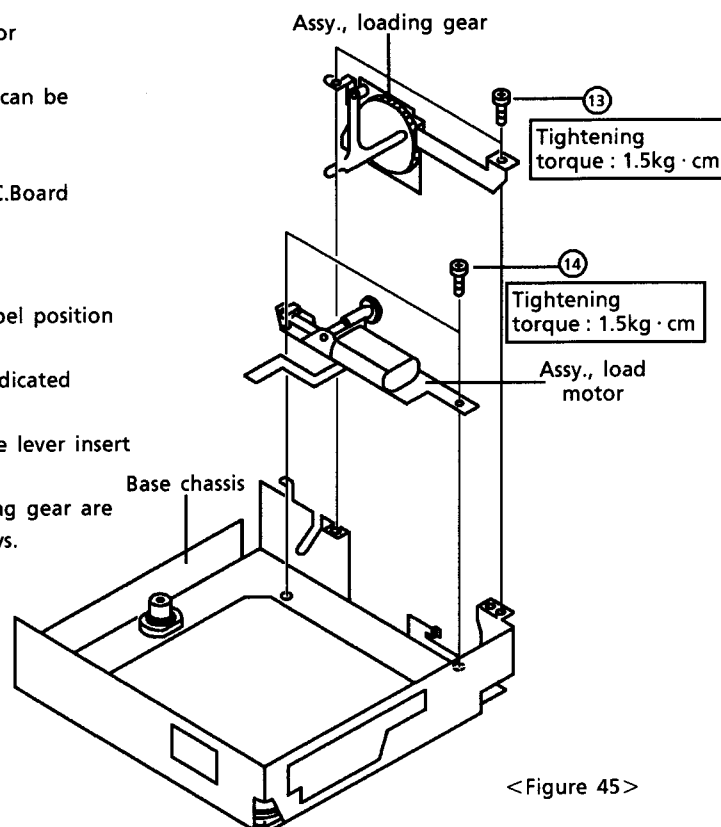
<Figure 44>

7. Loading motor (M1301) disassembly

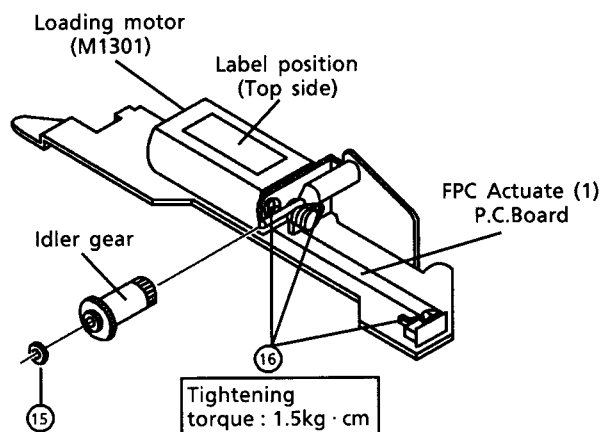
- (1) Remove two screws (13), the Assy., loading gear can be removed. (See Figure 45)
- (2) Remove two screws (14), the Assy., load motor can be removed. (See Figure 45)
- (3) Remove a washer (15) (M1.2), the Idler gear can be removed. (See Figure 46)
- (4) Remove three screws (16). (See Figure 46)
The Loading motor with FPC Actuate (1) P.C.Board can be removed.

<Assembly notes>

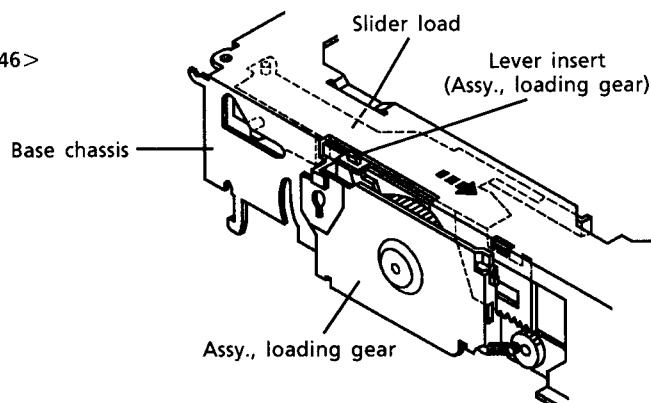
- Mount the Loading motor (M1301) so the label position is correct. (See Figure 46)
- Move the Slider load fully in the direction indicated by the arrow. (See Figure 47)
- When the Assy., loading gear is assemble, the lever insert a hole of the Slider load. (See Figure 47)
- When the Assy., load motor and Assy., loading gear are assemble, first set position next tighten screws.



<Figure 45>



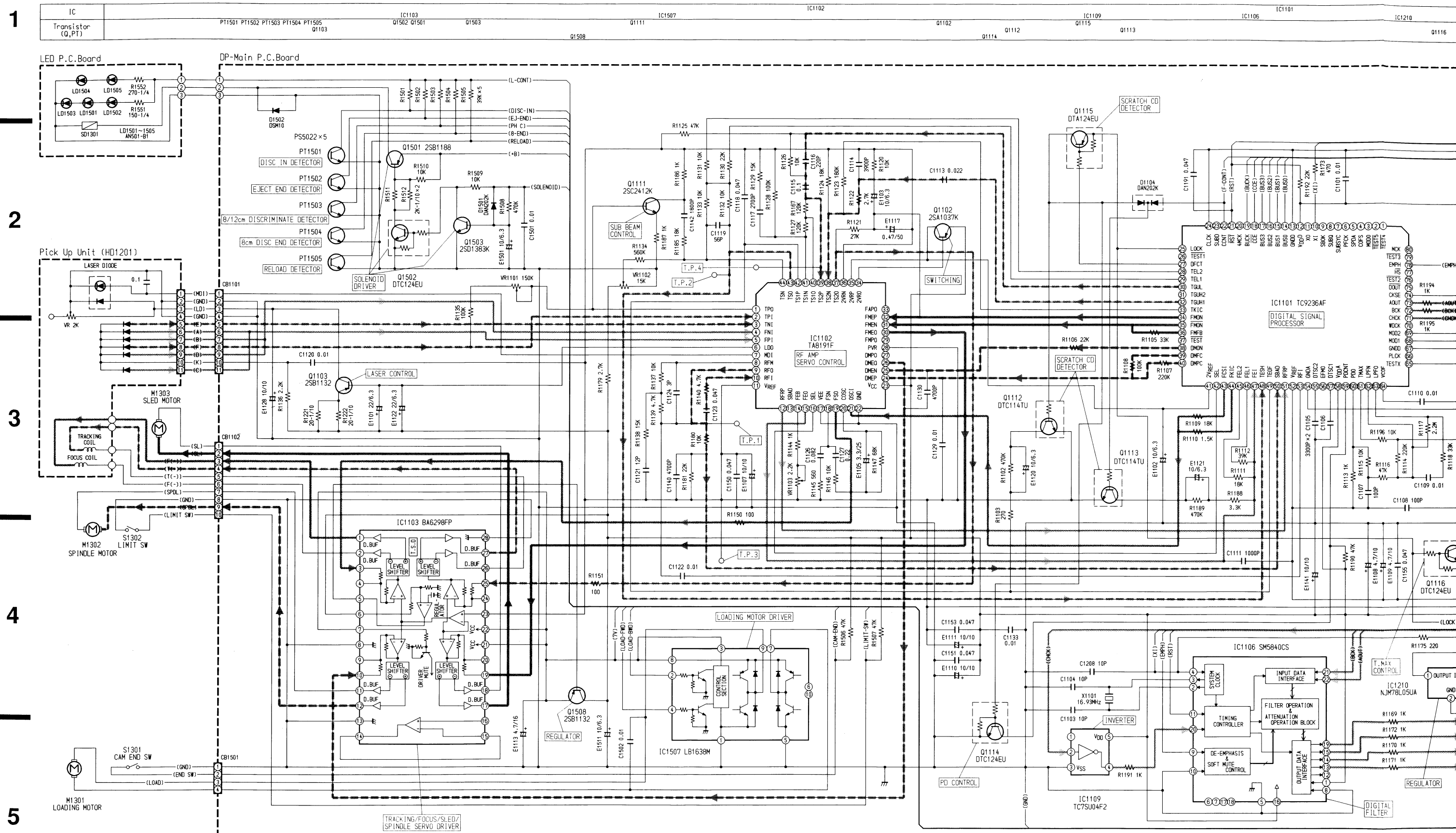
<Figure 46>



<Figure 47>

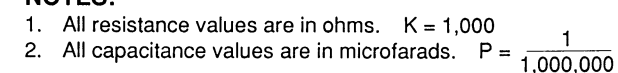
MEMO

Schematic Diagram



[注記]

1. C の単位: C 無
2. R の単位: R 無



Exploded View (CD Mechanism)

CD Mec

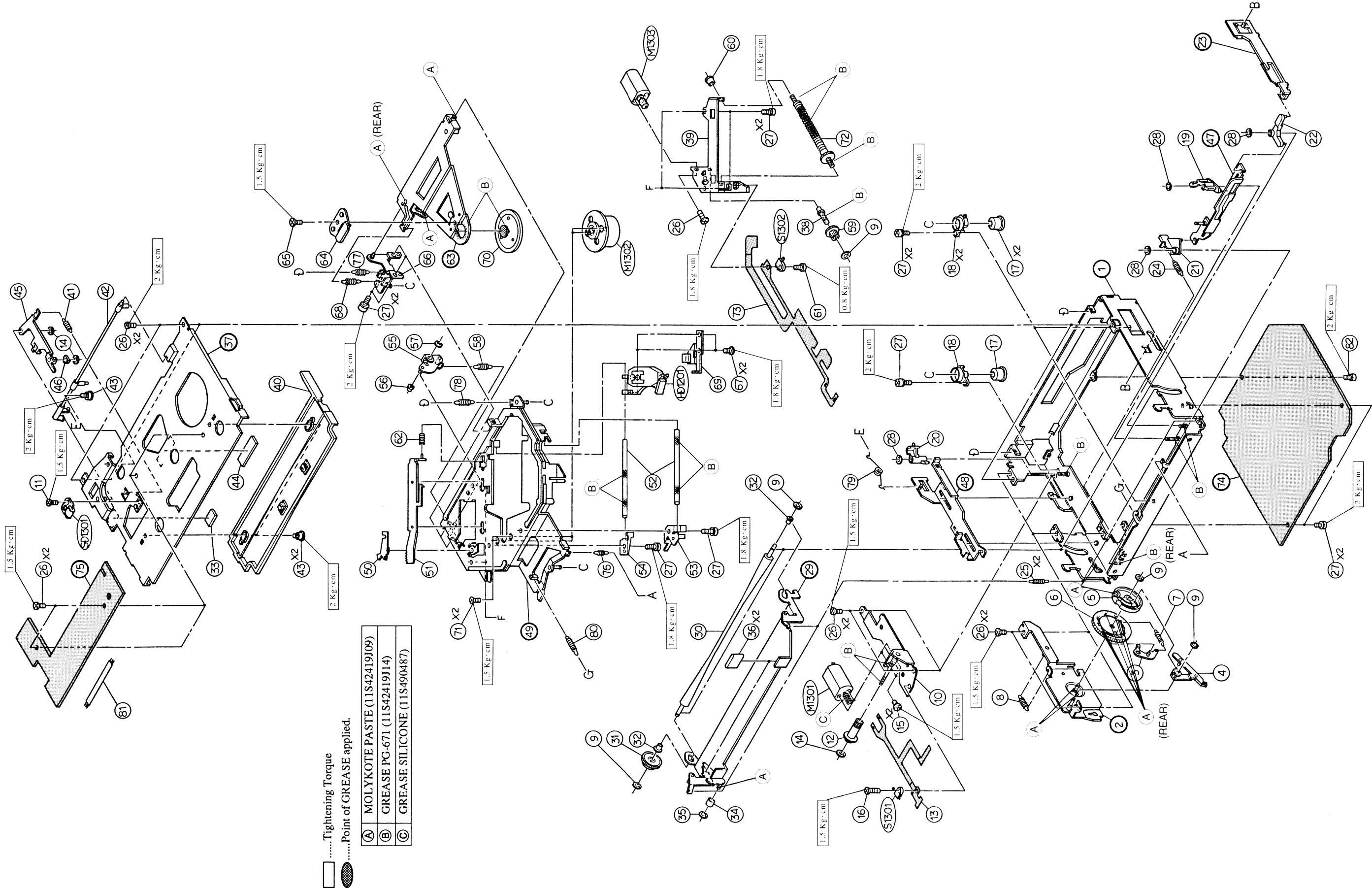
1

2

3

4

5



..... Tightening Torque
..... Point of GREASE applied.

A	MOLYKOTE PASTE (11S42419J09)
B	GREASE PG-671 (11S42419J14)
C	GREASE SILICONE (11S490487)

A

B

C

D

E

F

G

Symbol No.	Index
3	4-G
4	4-G
5	4-G
6	4-F
7	4-G
8	4-F
9	
10	4-F
11	3-A
12	5-E
13	5-F
14	
15	5-F
16	5-E
17	
18	
19	2-G
20	3-F
21	2-G
22	2-H
24	2-G
25	4-F
26	
27	
28	
30	4-D
31	5-D
32	
33	4-B
34	5-E
35	5-D
36	4-E
38	2-E
39	2-D
40	3-B
41	2-A
42	2-A
43	
44	3-B
45	2-A
46	3-A
50	4-C
51	4-C
52	3-D
53	4-D
54	4-D
55	3-C

CD Mechanism Assembly Parts List

Note : No parts number on parts list are not supplied.

Symbol No.	Index	Part No.	Description	Symbol No.	Index	Part No.	Description
3	4-G	01A50856W01	Assy., Riv. Timing	56	3-C	43A50701W01	Bush, Lever
4	4-G	01A50854W01	Assy., Riv. Lever Cam	57	3-C	04C42091G06	Ring, "E" (M1.5)
5	4-G	45B50814W01	Cam, Loading	58	3-C	41B50978W06	Spring, Pull
6	4-F	44B50813W01	Gear, Cam	59	2-E	44A50680W01	Gear, Middle
7	4-G	41B50978W02	Spring, Pull	60	1-E	43A50684W01	Bush, Slider
8	4-F	41B50978W05	Spring, Pull	61	2-E	03S70494F12	Screw, Pan (M2×8)
9		04B41345P12	Washer, Lock (M1.7)	62	3-C	41A50707W01	Spring, Comp
10	4-F	01A50852W01	Assy., Riv. Bracket Motor	64	2-B	07A50687W01	Stopper, Clamp
11	3-A	03S94385F02	Screw, Pan (M1.7×3)	65	2-B	03S94385F01	Screw, Pan (M1.7×2.3)
12	5-E	44B50812W01	Gear, Idler	66	2-C	01A50672W01	Assy., Riv. Bracket Arm Clamp
13	5-F	84T55236W01	FPC Actuate(1) P.C.Board	67	3-E	03S94385F32	Screw, Pan (M2×2.2)
14		04B41345P15	Washer, Lock (M1.2)	68	2-C	41B50978W07	Spring, Pull
15	5-F	03S94385F07	Screw, Pan (M2×2)	69	3-F	41A50682W01	Spring, Nut
16	5-E	03S94385F11	Screw, Pan (M2×5.2)	70	2-C	43A50683W01	Table, Clamper
17		75B58086W01	Damper, DP-H	71	4-C	03S94385F29	Screw, Countersink (M1.7×4)
18		15A40136W01	Holder, Damper-S	72	2-E	01V51800W71	Assy., Shaft Screw
19	2-G	45B50815W01	Arm, Lock (F)	73	2-E	84T55237W01	FPC Actuate(2) P.C.Board
20	3-F	45B50816W01	Arm, Lock (R)	76	4-D	41B50978W08	Spring, Pull
21	2-G	45A50817W01	Arm, Link (L)	77	2-C	41B50978W09	Spring, Pull
22	2-H	45A50818W01	Arm, Link (R)	78	3-C	41B50978W10	Spring, Pull
24	2-G	41B50978W01	Spring, Pull	79	3-E	41A50977W01	Spring, Lever
25	4-F	41B50978W04	Spring, Pull	80	4-D	41B50978W11	Spring, Pull
26		03S94385F09	Screw, Pan (M2×3)	81	4-A	30T25426W03	Wire, Parallel (3P)
27		03S40014G07	Screw, W/Washer (M2×4)	82	3-H	03S43997P61	Screw, Round (M2×4)
28		04B41345P45	Washer, Lock (M2.1)				
30	4-D	49B51428W01	Roller, (G) DP-H				
31	5-D	01T55276W01	Assy., Clutch DP-H				
32		43A51504W01	Bush, Roller				
33	4-B	75A58090W01	Sheet, Arm Solenoid				
34	5-E	43A50843W01	Roller, Link				
35	5-D	04B41345P18	Washer, Lock (M1.2)				
36	4-E	75A58084W01	Rubber, Arm Guide				
38	2-E	46A50694W01	Stud, Middle				
39	2-D	07B50702W01	Bracket, Motor				
40	3-B	15C50819W01	Guide, Top DP-H				
41	2-A	41B50978W03	Spring, Pull				
42	2-A	01V53900W76	Assy., Arm Stopper				
43		03A58045W01	Screw, Special (M2×3.9)				
44	3-B	75A58082W01	Sheet, Mag DP-H				
45	2-A	01A50849W01	Assy., Riv. Arm Solenoid				
46	3-A	07A50997W01	Plate, Solenoid				
50	4-C	45A50678W01	Lever, Pinlock				
51	4-C	45B50676W01	Lever, Link				
52	3-D	47A50698W01	Shaft, Pickup				
53	4-D	07A50688W01	Stopper, Shaft (A)				
54	4-D	07A50689W01	Stopper, Shaft (B)				
55	3-C	01A50673W01	Assy., Riv. Lever Arm				

Miscellaneous

HD1201	3-D	88T55261W01	Pick Up Unit
M1301	4-E	01V53900W77	Assy., Loading Motor (3.5V-110mA)
M1302	2-D	59T55262W01	Motor, Spindle (3V-120mA)
M1303	1-D	01V54100W69	Assy., Sled Motor (3.5V-110mA)
S1301	5-E	40T71025F03	Switch, Detector (CAM END)
S1302	2-E	40T71025F03	Switch, Detector (LIMIT)
SD1301	4-A	01T55277W01	Assy., Solenoid DP-H